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ЦЕНТР ДАННЫХ ФОТОЯДЕРНЫХ ЭКСПЕРИМЕНТОВ

ФОТОЯДЕРНЫЕ ДАННЫЕ

PHOTONUCLEAR DATA

указатель INDEX 1976 - 1980

ИЗДАТЕЛЬСТВО МОСКОВСКОГО УНИВЕРСИТЕТА

1982

МОСКОВСКИЙ ОРДЕНА ЛЕНИНА, ОРДЕНА ОКТЯБРЬСКОЙ РЕВОЛЮЦИИ И
ОРДЕНА ТРУДОВОГО КРАСНОГО ЗНАМЕНИ
ГОСУДАРСТВЕННЫЙ УНИВЕРСИТЕТ имени М.В.ЛОМОНОСОВА

НАУЧНО-ИССЛЕДОВАТЕЛЬСКИЙ ИНСТИТУТ ЯДЕРНОЙ ФИЗИКИ

ЦЕНТР ДАННЫХ ФОТОЯДЕРНЫХ ЭКСПЕРИМЕНТОВ

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ФОТОЯДЕРНЫЕ ДАННЫЕ 1976–1980

УКАЗАТЕЛЬ

ИЗДАТЕЛЬСТВО МОСКОВСКОГО УНИВЕРСИТЕТА

1982

УДК 539.17

Варламов В.В., Капитонов И.М., Панов А.Н., Шевченко О.П. Фотоядерные данные 1976-1980. Указатель. - М.: Изд-во Моск. ун-та, 1982, -264 с., 1 табл.

Настоящий указатель данных включает в себя сведения об экспериментальных работах, посвященных исследованию фотоядерных процессов в атомных ядрах и опубликованных в 1976-1980 гг. в периодической литературе.

ЦЕНТР ДАННЫХ ФОТОЯДЕРНЫХ ЭКСПЕРИМЕНТОВ

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CENTRE FOR PHOTONUCLEAR EXPERIMENTS DATA

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Настоящий Указатель фотоядерных данных подготовлен Центром данных фотоядерных экспериментов Научно-исследовательского института ядерной физики Московского государственного университета.

Указатель включает в себя сведения о работах, опубликованных в течение 1976 - 1980 годов в периодической научной литературе и посвященных экспериментальному исследованию ядерных реакций под действием фотонов, электронов и процессов радиационного захвата. В сборник включены работы, выполненные в области энергий возбуждения атомных ядер, заключенной между нуклонным и мезонным порогами. Указатель содержит сведения о самих работах, особенностях использованных экспериментальных методик, основных полученных физических результатах, а также библиографию и авторский указатель.

Кроме подготовки изданий информационного характера Центр данных фотоядерных экспериментов компилирует в рамках международного обменного формата EXFOR экспериментальные данные по фотоядерным реакциям, полученные в работах советских авторов.

Надеемся, что обмен информацией между Центром данных фотоядерных экспериментов и физиками, работающими в области фотоядерных исследований, будет способствовать прогрессу этих исследований.

The present Photonuclear Data Index has been prepared in the Centre for Photonuclear Experiments Data at the Institute of Nuclear Physics of Moscow State University.

The Index includes information about the works that have been published during 1976-1980 in the periodical scientific literature, and is devoted to the experimental investigation of nuclear reactions with photons, electrons and the processes of radiative capture. The works carried out in the excitation energy range between nucleon and meson thresholds are included. The Index contains information about the works themselves, features of the experimental methods used, fundamental physical results obtained, and also the bibliography and the author index.

In addition to the preparation of the information publications, the Centre for Photonuclear Experiments Data compiles, by means of international exchange format EXFOR, the experimental photonuclear reaction data obtained in the works of Soviet authors.

We hope that information exchange between the Centre for Photonuclear Experiments Data and physicists that are engaged in photonuclear studies will assist in the advancement of this field of science.

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Ф О Т О Я Д Е Р Н Ы Е Д А Н Н Ы Е 1976-1980

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P H O T O N U C L E A R D A T A 1976-1980

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I. ПРЕДИСЛОВИЕ PREFACE

Настоящий Указатель содержит информацию о фотоядерных данных , опубликованных в течение 1976-1980 гг.

Указатель включает в себя таблицу "ФОТОЯДЕРНЫЕ ДАННЫЕ", в которой систематизированы результаты экспериментальных исследований, библиографию работ, авторский указатель и указатель элементов.

При подготовке Указателя в различные годы были использованы следующие советские и иностранные журналы:

The present Index contains the information about photonuclear data, which have been published during 1976-1980 years.

The Index includes the table "PHOTONUCLEAR DATA", in which the results of the experimental studies are systematized, bibliography of the works, author index, and elements index.

In the preparation of the Index in different years the following soviet and foreign journals have been used:

1. Ядерная физика.
2. Известия АН СССР. Серия физическая.
3. Известия АН Каз.ССР. Серия физико-математическая.
4. Известия Лат.ССР. Серия физических и технических наук.
5. Письма в ЖЭТФ.
6. Атомная энергия.
7. Вестник Московского университета. Серия: Физика. Астрономия.
8. Известия высших учебных заведений. Серия: Физика.
9. Украинский физический журнал.
10. Доклады АН СССР.
11. Успехи физических наук.
12. Сборник "Проблемы ядерной физики и космических лучей". ХГУ.Харьков.
13. Сборник "Элементарные частицы и атомные ядра". ОИЯИ. Дубна.
14. Сборник "Вопросы атомной науки и техники", Серия: Физика высоких энергий и атомного ядра". ХФТИ. Харьков.
15. Сборник "Вопросы атомной науки и техники", Серии: Ядерные константы. Общая и ядерная физика. ЦНИИАТОМИНФОРМ. Москва.
16. Nuclear Physics, A.
17. Physical Review, C.
18. Zeitschrift für Physik, A.
19. Physics Letters, B.
20. Physical Review Letters.
21. Canadian Journal of Physics.
22. Australian Journal of Physics.
23. Journal of Physical Society of Japan.
24. Journal of Physics G : Nuclear Physics.
25. Nuclear Instruments and Methods.
26. Annals of Physics.
27. Il Nuovo Cimento.
28. Il Nuovo Cimento Letters.
29. Review of Modern Physics.
30. Proceeding of Royal Society.
31. Physics Today.
32. Phylosophical Magazine.

II. ПОЯСНЕНИЯ К ТАБЛИЦЕ — EXPLANATION OF TABLE

В таблицу "ФОТОЯДЕРНЫЕ ДАННЫЕ" включены сведения о работах, содержащих информацию об электромагнитных возбуждениях в атомных ядрах, кроме результатов исследования процессов радиационного захвата тепловых нейтронов, имеющих весьма специфическую природу.

Включенные в таблицу экспериментальные результаты относятся к области энергий возбуждения, заключенной между нуклонным и мезонным порогами.

Экспериментальная информация в таблице приводится, как правило, отдельно для каждого из исследованных ядер, расположенных в порядке возрастания атомного номера элемента.

Термины, обозначающие графы таблицы, имеют следующее содержание:

"NUCLEUS" – символ элемента с указанием массового числа (слева,выше); в случае использования мишени из естественной смеси изотопов массовое число не указывается;

"REACTION" – символ реакции вне зависимости от способа её исследования и исследованного канала (указано далее); например, фотонейтронная реакция, исследованная с помощью γ-квантов, сопровождающих распад уровней конечного ядра, обозначается (γ,n); реакция радиационного захвата обозначается (p,γ), (α,γ) и так далее, несмотря на то, что в большинстве случаев речь идет лишь о канале образования конечного ядра в основном состоянии; в случае (квази-) монохроматического γ-излучения используется символ "$\underline{\gamma}$" ;

Table "PHOTONUCLEAR DATA" contains information about the electromagnetic excitations in atomic nuclei with the exception of the results of studies of the processes of radiation capture of thermal neutrons, which are of highly specific nature.

The experimental results included here refer to the excitation energy region between the nucleon and meson thresholds.

Experimental information is given, as a rule, separately for each of the studied nuclei in the order of increasing atomic number of the element.

The terms designating the columns of the table are as follows:

- is the element symbol with the mass number (left, above) indicated; when a target made of a natural mixture of isotopes is used, the mass number is not indicated;

- is a symbol of reaction regardless the method of its investigation (indicated later); for instance, a photoneutron reaction studied using the de-excitation γ-quanta is denoted by (γ,n), the radiative capture reactions are designated as (p,γ), (α,γ), and so forth, despite the fact that it is inly the channel of formation of the final nucleus in the ground state that is discussed in most cases; for the (quasi-) monochromatic γ-reaction the symbol " $\underline{\gamma}$ " is used;

"ENERGY" - энергия или область энергий возбуждения (в МэВ) в случае реакций с фотонами; для реакций с электронами и для реакций радиационного захвата в ряде случаев приводятся энергии или области энергий налетающих частиц (при этом дается подстрочный символ налетающей частицы, например, в случае реакций с электронами - E_e) ;

- is the excitation energy or the energy region (in MeV) for the reactions induced by photons; for the reactions induced by electrons and for radiative capture sometimes the energies or energy range of incident particles is indicated (then the incident particle is denoted by a subscript, e.g. for reactions induced by electrons - E_e);

"METHOD--DEVICE" - метод получения данных или основной элемент экспериментальной установки ;

- is the method of data extraction or the principal device of the experimental setup used;

"ANGLES" - значения или диапазоны углов (в градусах), для которых проводились измерения ;

- are the values or ranges of the angles (in degrees) at which measurements were made;

"RESULTS" - краткое перечисление основных результатов выполненных измерений и изложение информации, извлекаемой и (или) обсуждаемой авторами (упоминаются лишь фактические результаты, приводимые в работах в виде рисунков, таблиц или численных значений) ;

- is a brief list of the main results of the measurements made and the description of information extracted and (or) discussed by the authors (only the factual results given in papers as diagrams, tables, or numerical values are mentioned);

В данной графе таблицы в случае, если приводятся результаты, относящиеся к реакции иного типа, чем указанная в графе "REACTION", в частности, в случае парциального канала основной реакции, даются соответствующие указания :

If the indicated results refer to a reaction different from that given in the column "REACTION", in particular for the partial channel of the basic reaction, it is specially mentioned:

"No." - пятисимвольный номер соответствующей работы в библиографии, образованный по принципу ГГННН и определяющий год (ГГ) опубликования работы и ее порядковый номер (ННН) в соответствующем Информационном бюллетене.

- is the five-digit number of the work in the bibliography, formed on the principle YYNNN and determining the year (YY) of publication of a work and its index number (NNN) in the corresponding Information bulletin.

"E" - дополнительный символ, обозначающий наличие в фондах ЦДФЭ цифровых данных, записанных в формате EXFOR

- is an additional symbol signifying the presence in the CDFE fund of digital data in the EXFOR format.

В тех случаях, когда в работе отсутствуют конкретные данные, соответствующие выделенным графам таблицы (например, при ссылке на ранее опубликованную методику измерений или при новом анализе полученных ранее данных), в графах таблицы дается прочерк " - ".

In those cases when the work referred to has no concrete data corresponding to the columns of table (e.g. in referring to the earlier published methods of measurement or in a new analysis of the previously obtained data) the columns contain the symbol "-".

III. ТАБЛИЦА "ФОТОЯДЕРНЫЕ ДАННЫЕ"

TABLE "PHOTONUCLEAR DATA"

NUCLEUS	REACTION	ENERGY (MeV)	METHOD - DEVICE	ANGLES (DEGREES)	RESULTS	No.
I	2	3	4	5	6	7
		Z = I	H Y D R O G E N	A = 2/3		
^{2}H	(γ,p)	20 - I20	magnetic spectrometer	0	differential cross section	76001
^{2}H	(e,e')	E_e = 708	magnetic spectrometer	-	spectrum of the electrons	76002
^{2}H	(e,e')	-	-	-	exchange forces contribution dependence on transfer momentum	76003
^{2}H	(e,e); (e,e')	E_e =80 - 300	magnetic spectrometer	30 - I20	spectra of the electrons; double differential cross section	76004
^{2}H	(γ,p)	7.3 - 241.4	E Δ E	37 - I43	differential cross section; angular distributions of the protons	77001

continuation

1	2	3	4	5	6	7
^{2}H	(n,γ)	E_n = 37 ÷ 72	recoil nuclei	0 - I80	spectrum of the deuterons; total cross section	79001
^{2}H	(e,e')	E_e = 56.4	magnetic spectrometer	I80	cross section; magnetic form factor	80001
^{2}H	$(\underline{\gamma},n)$	20.3	scintiliator	0 - 90	bidimensional spectra of neutrons and protons; angular distributions of the neutrons	80002
^{2}H	(γ,p)	≤ 600	magnetic spectrometer	75 - I50	excitation functions for photon asymmetry	80003 E
^{3}H	$(\underline{\gamma},n)$ $(\underline{\gamma},2n)$	5 - 30	BF_3	4π	cross sections for the (γ,n) and (γ,2n) reactions; integrated cross sections and moments	80004

Z = 2 HELIUM A = 3 4

I	2	3	4	5	6	7
^{3}He	(p,γ); $(\vec{p},\gamma)$	7 - I5	NaJ	30 - I50	angular distributions of the photons; total cross section; EI and E2 T-matrix element amplitudes and phases	79002
^{3}He	(e,e')	E_e = 40-6I	magnetic spectrometer	I80	spectra of the electrons; radius of the ground state magnetic dipole distribution	79003
^{4}He	(e,e')	-	-	-	exchange forces contribution dependence on transfer momentum	76003
^{4}He	(γ,n)	≤ I50	diffusion chamber	-	elastic dipole and quadrupole cross sections	76005
^{4}He	(γ,p) (γ,n) (γ,np) (γ, 2n2p)	24 ┐ 47 25 - 46 28 - 75 28 - 73	diffusion cloud chamber in magnetic field	0 - I80	differential and total cross sections; ratio for the proton and the neutron cross sections; dipole and quadrupole absorption contributions; angular distributions of the protons and neutrons;	77002
^{4}He	(γ,d)	≤ 42	diffusion cloud chamber in magnetic field		angular distributions; total cross sections; partial cross section for the E2-transitions	78001 E

continuation

I	2	3	4	5	6	7
^{4}He	(γ,p); (γ,n); (γ,d); (γ,pn); (γ,2p2n)	-	-	-	review of the previously published data	78002 E
^{4}He	(γ,n)	40.0 - I47.5	-	-	total cross section	78003 E
^{4}He	(γ,p); (γ,n); (γ,2d); (γ,pn); (γ,2p2n); (γ,tαt)	≤I50	diffusion cloud chamber in magnetic field	-	cross sections for the electrical dipole and quadrupole γ-absorption; energy moments of the cross sections	79004 E
^{4}He	(γ,pn)	28 - I50	diffusion cloud chamber in magnetic field	-	spectra of the protons, neutrons, and deuterons; distributions over relative energies for pn, pd, and nd pairs	79005
^{4}He	(γ,pn)	≤I50	diffusion cloud chamber in magnetic field	-	distributions over the Treiman-Yang angle	79006
^{4}He	(γ,p); (γ,^{3}H); (γ,^{3}He)	3I - 5I	EΔE	90	^{4}He(γ,p) - to - (γ,n) differential cross section ratio	79007
^{4}He	(γ,n); (γ,d)	≤ 50	diffusion cloud chamber in magnetic field	4π	angular distributions of the products; cross sections; photoneutron and photoproton asymmetry factors	80005 E

continuation

I	2	3	4	5	6	7
^4He	(γ,p); (γ,n); (γ,2d); (γ,pn); (γ,2p2n)	≤ I50	diffusion cloud chamber in magnetic field	0 - I80	cross sections for electrical dipole and quadrupole absorption; integrated cross sections and moments	80006 E
^4He	(γ,pn)	≤ I50	diffusion cloud chamber in magnetic field	0 - I80	energy and angular distributions of the pairs of products	80007 E
^4He	(p,γ)	E_p = I7 - 3I	NaJ	55 - I25	fore-aft asymmetry in the angular distributions of the photons; cross section for the (p,γ_0) reaction	80008
^4He	(γ,pn)	≤ I50	diffusion cloud chamber in magnetic field	0 - I80	energy and angular distributions of the protons, neutrons and deuterons; distributions on the energies of the pairs (p n), (p d), (n d)	80009 E
^4He	(p,γ)	E_p = 0.46 - - 0.93	NaJ(Tl)	0 - I35	spectra and angular distributions of the photons; polarization of the photons	80010
^4He	(γ,n)	2I - 47	BF_3	4π	yield; cross section	80011
^4He	(γ,pn)	28 - I50	diffusion cloud chamber in magnetic field	0 - I80	angular distributions of neutrons, protons and deuterons; contribution of electromagnetic transitions to the cross section	80012 E

Z = 3 L I T H I U M A = $^{6}_{7}$

1	2	3	4	5	6	7
^{6}Li	(e,e')	E_e = 35 - I25	-	99.9 I40.7	spectrum of the electrons; form factors	76006
^{6}Li	(γ,p)	60, 80	magnetic spectrometer	30 - I50	spectra and angular distributions of the protons; differntial and total cross sections	76007
^{6}Li	(e,d)	E_e = 2 - I0	magnetic spectrometer	30 - I50	spectra and angular distributions of the deuterons; photodisintegration cross section	76008
^{6}Li	(e,e')	E_e = 40.5; 50.5	-	I80	spectra of the electrons; form factor of the 2^+, T=I state at 5.36 MeV; values of the total cross sections	77003
^{6}Li	(e,e')	-	-	-	analysis of the interaction in final state on the basis of the previously obtained data	77004
^{6}Li	(e,e')	E_e = 82 - 292	magnetic spectrometer	45 - I40	cross section; form factors	77097
^{6}Li	(γ,t); (γ,tp); (γ,td); (γ,pp); (γ,dd); (γ,dp); (γ,^{3}He)	35 - 55	E Δ E	66 - II5	coincidence between products; spectra of the protons in coincidence with tritons from the reaction (γ,tp); angular correlation of products of the reaction (γ,tp); differential cross sections for the (γ,t), (γ,tp), (γ,td) reactions	78004

continuation

I	2	3	4	5	6	7
^{6}Li	(e,e')	-	-	-	momentum transfer dependence of the position of quasielastic scattering maximum	78006
^{6}Li	(e,ep)	E_e = 700	-	-	proton separation energy spectra; recoil momentum distributions; occupation probabilities of a single-particle states	78007
^{6}Li	(e,p)	I3.0 - I8.5	positive ion spectrometer	54, 90	differential cross sections;	79008
^{6}Li	(γ,p); (γ,d); (γ,t); (γ,^{4}He)	≤50	E Δ E	30 - I50	angular distributions of the protons and tritons; differential cross sections	79009
^{6}Li	(γ,p)	≤ I5.4	photographic plates	I5 - I65	spectra and angular distributions of the protons	80013
^{6}Li	(e,e')	I2 - 20	magnetic spectrometer	60	spectrum of the electrons; differential form factors for t - τ breakup of ^{6}Li	80014
^{7}Li	(γ,p)	60, 80	magnetic spectrometer	30 - I50	spectra and angular distributions of the photons; differential and total cross sections	76007
^{7}Li	(e,e')	-	-	-	analysis of the interaction in final state on the basis of the previously obtained data	77004
^{7}Li	(e,e'^{3}H)	6 - I5	magnetic spectrometer	90	differential cross sections for the (e,e'^{3}H) and (γ,^{3}H) reactions	77005

continuation

I	2	3	4	5	6	7
^{7}Li	(γ,n)	8.5 - 25.0	time-of-flight	90	spectra of the neutrons; difference spectra; differential cross sections for the (γ,n_0) and (γ,n_I) reactions; integrated cross sections for the (γ,n_0) and (γ,n_I) reactions; bremsstrahlung photon spectra	77006
^{7}Li	(γ,t); (γ,tp); (γ,td); (γ,pp); (γ,dd); (γ,dp); $(\gamma,t^{3}He)$	35 - 55	E Δ E	66 - II5	coincidences between products; spectra of the protons in coincidence with tritons in the reaction (γ,tp); angular correlation of products of the reaction (γ,tp); differential cross sections of the reactions (γ,t), (γ,tp), (γ,td)	78004
^{7}Li	(γ,n)	≤ 58	Ge(Li)	I25	spectra of the deexcitation photons; integrated cross section for the reaction $^{7}Li(\gamma,n)^{6}Li^{*}$ (3.56)	78005
^{7}Li	(e,e')	-	-	-	momentum trabsfer dependence of the position of quasi-elastic scattering maximum	78006
^{7}Li	(e,e'p)	E_e = 700	-	-	proton separation energy spectra; recoil momentum distributions; occupation probabilities of a single-particle states	78007
^{7}Li	(γ,p); (γ,d); $(\gamma,^{3}He)$	≤ 50	E Δ E	30 - I50	angular distribution	79009

continuation

1	2	3	4	5	6	7
^{7}Li	(γ,t); (γ,α)	≤ 50	magnetic spectrometer	27 - I52	angular distributions of the tritons; differential and total cross sections	790I0
^{7}Li	(γ,γ')	≤ 32	Ge(Li)	I35	spectra of the photons; energies and integrated cross sections for populated levels	800I5 E
^{7}Li	$(e,^{6}He)$; $(e,^{6}Li)$	E_e = I08 - I98	positive-ion spectrometer	30 - I50	spectra and angular distributions of the products; cross sections; photodisintegration cross sections for the $^{7}Li(\gamma,p)$ and $^{7}Li(\gamma,n)$ reactions	800I6

Z = 4 BERYLLIUM A = 7, 8, 9, 10

1	2	3	4	5	6	7
^{7}Be	(p,γ)	E_p = 0.2 - 1.2	Ge(Li)	0	spectrum of the photons; total cross section	79011
^{8}Be	(p,γ)	E_p = 0.8 - 17.6	NaJ	90	yields; spectrum and angular distributions of the photons; total cross section; widths of the levels	76009
^{9}Be	(γ,p)	60	magnetic spectrometer	45	spectrum of the protons; differential cross section	76007
^{9}Be	(e,e')	-	-	-	analysis of the interaction in final state on the basis of the previously obtained data	77004
^{9}Be	(e,e')	$\leq$ 80	magnetic spectrometer	-	anomalies in the cross section	77007 E
^{9}Be	(γ,n)	18 - 26	time-of-flight	50 - 146	spectra and angular distributions of the neutrons; angular distributions of the neutrons from the (γ,n_I) reactions; differential, total and integrated cross sections for the (γ,n_I) reaction; upper limit of the integrated cross section for the (γ,n_0) reaction	77008

continuation

I	2	3	4	5	6	7
^{9}Be	(e,e')	-	-	-	momentum transfer dependence of the position of quasielastic scattering maximum	78006
^{9}Be	(e,e'p)	E_e = 700	-	-	proton separation energy spectra; recoil momentum distributions; occupation probabilities of a single-particle states	78007
^{9}Be	(γ,n); (γ,α)	I8 - 26	Si(Li)	45 - I60	spectrum of the α-particles from the $^{9}Be(\gamma,n)^{8}Be^{*}$ (I6.6) and $^{9}Be(\gamma,\alpha_0)^{5}He$; average and integrated cross sections	78008
^{9}Be	(e,e')	E_e = 37.8, 50.I	energy-loss spectrometer		spectra of the electrons	78009
^{9}Be	(e,e')	< 80	magnetic spectrometer	48 - I08	form factors; widths and multipolarities of the electrical giant resonances; sum rule exhaustion	790I2
^{9}Be	(γ,γ')	<32	Ge(Li)	I35	spectra of the photons; energies and integrated cross sections for the populated levels	800I5 E
^{10}Be	(t,γ)	E_t = 0.4 - I.I	Ge(Li); NaJ(Tl)	0 - I20	spectrum and angular distributions of the photons; differential cross-sections for the reactions (t,γ_0) and (t,γ_I); spin, parity and width of the resonance at E_t = 0.8	78OI0
Be	(γ,p)	I00 - 600	E Δ E	36.9 - - II3.7	yields of the protons; differential cross sections	78OII

Z = 5 B O R O N $A = {}^{8}_{10}_{11}$

I	2	3	4	5	6	7
^{8}B	(p,γ)	E_p = 0.36	decay $^{8}B(\beta^+\nu)^{8}Be^{II} \rightarrow 2\alpha$	90	total cross section	77009
^{10}B	(e,e')	E_e = 40-61	magnetic spectrometer	180	spectrum of the electrons; cross sections for various states; multipolarities, radii and widths of the transitions	76010
^{10}B	(γ,n)	10 - 35	liquid scintillator	-	cross sections for the reactions ((γ,n) + (γ,pn) + + 2(γ,2n) + 2(γ,2np)) and ((γ,2n) + (γ,2np)); integrated cross sections; threshold energies	76011
^{10}B	(e,e'p)	E_e = 1200	magnetic spectrometer	-	(e,p)-coincidences; differential cross section as a function of the separation energy of protons; separation energies for the protons of the various shells	77010
^{10}B	(e,e'p)	E_e = 700	-	-	proton separation energy spectra; recoil momentum distributions; occupation probabilities of a single-particle states	78007
^{10}B	(e,e')	E_e = 140	-	70, 80	spectra of the electrons; form factor of the 2.12 level of ^{11}B	78012

continuation

1	2	3	4	5	6	7
^{10}B	(α,γ)	E_α = I.I4 - - I.25	Ge(Li)	55	yield for 0.718 γ-rays;, resonance strength for level at E = 5.166	79013
^{10}B	(e,e')	E_e = 67 - I94	magnetic spectrometer	I00 - I45	spectrum of the electrons; form factors; radiative widths of the levels; reduced probabilities and multipolarities of the transitions	79014
^{10}B	(α,γ)	E_α = I.02 - I.I8	Ge(Li)	0 - 90	spectra and angular distributions of the photons; lifetimes of the levels; transition strengths; branching ratios; mixing ratios	79015
^{10}B - ^{40}Ca	(p,γ) (α,γ)	-	-	-	analysis of the isoscalar and the isovector EI-transitions on the basis of the previously obtained data	77011
^{11}B	(γ,n)	I0 - 35	liquid scintillator	-	cross sections for the reactions ((γ,n) + (γ,pn) + + 2(γ,2n) + 2(γ,2np)) and ((γ,2n) + (γ,2np)); integrated cross sections; threshold energies	76011
^{11}B	(γ,γ)	$\leq$ I5	Ge(Li)	I25	widths of the levels	78013

continuation

I	2	3	4	5	6	7
II_B	(e,e')	E_e = 121 - 250	magnetic spectrometer	-	spectra of the electrons; form factors of the levels; charge distributions; energies and widths of the resonances	79016
II_B	(γ,Xγ')	≤ 30	Ge(Li)	135	spectrum of the deexcitation photons	79017
II_B	(γ,γ)	≤ 11.3	Ge(Li)	126	spectrum of the photons	80017

Z = 6 C A R B O N A = 11 12 13 14

1	2	3	4	5	6	7
^{11}C	(p,γ) (α,γ)	E_p = 1.11 E_α = 0.96	Ge(Li)	0 - 135	spectra and angular distributions of the photons; lifetimes of the levels; branching ratios	79008
^{12}C	(e,e')	-	-	-	exchange forces contribution dependence on transfer momentum	76003
^{12}C	(γ,p)	60 - 100	magnetic spectrometer	30 - 150	spectra and angular distribution of the protons; differential and total cross sections	76007
^{12}C	(γ,p)	16 - 30	Si(Li)	37 - 143	spectrum and angular distributions of the protons; differential and total cross sections	76012
^{12}C	(e,e'p)	E_e = 700	magnetic spectrometer	-	proton separation energy spectra; recoil momentum distributions	76013
^{12}C	(e,e'p)	E_e = 497	magnetic spectrometer	40 - 90	cross section; missing energy spectra; momentum and hole strength distribution	76014
^{12}C	(γ,n)	$\leq$ 28	recoil-proton spectrometer	90	differential and total cross sections for the (γ,Xn) reaction; integrated cross sections	76015

continuation

I	2	3	4	5	6	7
^{12}C	(γ,γ)	40 - 120	diffusion cloud chamber in magnetic field	0 - 180	total cross section; electric dipole absorption contribution; angular distributions of the protons	77012
^{12}C	(p,γ)	E_p = 0.163	Ge(Li)	45	spectra of the photons; isospin mixing between the levels	77013
^{12}C	$(\gamma,2n)$	100 - 800	activity	4π	yield; total cross section	77014
^{12}C	(p,γ)	21 - 37	NaJ(Tl)		spectra of the photons; differential cross sections for the (p,γ_0), (p,γ_1), (p,γ_2) and (p,γ_3) reactions; angular distributions of the photons; integrated cross sections for the (γ,p_0) reaction	77015
^{12}C	(e,e'p); (γ,p)	-	-	-	p-shell proton momentum distribution from the previously obtained data	77016
^{12}C	(e,e'n)	-	-	-	comparison of the absolute cross sections for the electro- and photodisintegration	77017
^{12}C	(γ,n)	$\leq$30	activity	4π	integrated cross section; effective energy range; effective cross section; gross structure of the bremsstrahlung spectra	77018

continuation

I	2	3	4	5	6	7
^{12}C	(e,e')	E_e = 140	-	90, 100	spectra of the electrons	78012
^{12}C	(γ,p)	≤ 120	diffusion cloud chamber in magnetic field	0 - 180	angular distributions of the protons; total cross section; contribution from the channel with final nucleus in $1/2^+$ state at 6.793	78014 E
^{12}C	(e,e')	E_e = 32.8 - - 62.2	magnetic spectrometer	105 - 165	angular distributions of the electrons; reduced transition probabilities; magnetization density; form factors; radiative width for the level (2^+, T=1) at 16.11	78015
^{12}C	(e,n)	E_e = 30	activity	4π	cross section	78016
^{12}C	(e,e')	E_e = 57 - 215	magnetic spectrometer	180	form factors	78017
^{12}C	(e,e')	E_e = 160 - - 520	multiwire proportional chambers	60, 130	spectra of the electrons	78018
^{12}C	(γ,n); (γ,∝n)	36 - 68	activity	4π	yield curves	78019
^{12}O	(γ,p∝); (γ,n∝)	≤ 120	diffusion cloud chamber in magnetic field	0 - 180	angular distributions of the products; distributions over the average energy of the particles; distributions over the excitation energy of the various intermediate states; energy correlations of the reaction products; total and integrated cross sections; relative contributions of the E2-transitions;	79019

continuation

1	2	3	4	5	6	7
^{12}C	(p,γ)	E_p = 40 - 80	NaJ(Tl)	60	spectra of the photons	79020
^{12}C	(e,e')	12.0 - 15.5	-	180	excitation spectra; form factors	79021
^{12}C	(e,e')	14.2 - 17.0	magnetic spectrometer	180	spectrum of the electrons	79022
^{12}C	(γ,γ)	23.5 - 39.0	NaJ(Tl)	90 - 135	cross sections	80018
^{12}C	(γ,γ)	≤ 32	NaJ(Tl)	90	cross section	80019 E
^{12}C	(γ,p)	≤ 31	E Δ E	90	spectra of the protons; partial cross sections for various final states; integrated cross sections for various reaction channels	80020 E
^{12}C	(γ,pn)	34 - 150	diffusion cloud chamber in magnetic field	0 - 180	distribution on the relative energy of np pairs; total cross section	80021 E
^{12}C	(γ,γ)	≤ 31	NaJ(Tl)	90	spectrum of the photons in coincidence with positrons for θ = 135°; spectrum of the elastically scattered photons	80022 E
^{12}C	(γ,e^+e^-)	≤ 31.1	scintillator	40 - 140	angular distributions of the electrons and positrons	80023 E
^{12}C	(γ,n)	≤ 160	time-of-flight	0 - 150	angular distribution of the (γ,p_0) to (γ,n_0) cross section ratio	80024

continuation

I	2	3	4	5	6	7
^{13}C	(γ,n)	4.8 - 25	BF_3	4π	cross section; integrated cross sections;	76016
^{13}C	(γ,n)	6 - 37	time-of-flight	98	spectra of the neutrons; differential cross sections for the (γ,n_0) and (γ,n_I) reactions; integrated cross sections	77019
^{13}C	(γ,n)	7.6 - 41.8	BF_3	4π	cross sections for the reactions$((\gamma,n) + (\gamma,pn) + (\gamma,\alpha n) + (\gamma,2n))$; $((\gamma,n) + (\gamma,pn) + (\gamma,\alpha n))$, and $(\gamma,2n)$; integrated cross sections	79023
^{13}C	(γ,n)	7.6 - 24.0	time-of-flight	16 - 145	spectra and angular distributions of the neutrons from the (γ,n_0) reaction; energies, spins, and parities of the levels	79024
^{13}C	(γ,n)	6.5 - 9.3	time-of-flight	90, 135	differential cross sections for the (γ,n_0) reaction; ground-state radiative widths	80025
^{14}C	(e,e')	E_e = 37.0 - 60.5	magnetic spectrometer	180	spectra of the electrons; energies, spins, parities and widths of the levels; differential cross sections; reduced probabilities of the transitions	77020
C	(γ,γ); (γ,γ')	$\leq$ 11.4	-	-	analysis of the previously published data	79025

Z = 7 N I T R O G E N A = I3, I4, I5

I	2	3	4	5	6	7
^{13}N	(p,γ)	E_p = I6 - 40	scintillation pair spectrometer	90	yields; spectra of the photons; excitation functions of the (p,γ_0) and (p,γ_{2+3}) reactions;	76017
^{13}N	(p,γ)	E_p = 9 - I4	NaJ	45 - I35	spectrum and angular distributions of the photons; differential cross sections for (p,γ_0), $(p_I\gamma_I)$ and (p,γ_{2+3}) reactions; integrated cross sections	76018
^{13}N	(p,γ)	E_p = 0.774	Ge(Li)	0	spectrum of the photons; yield; Q-value	77021
^{13}N	(p,γ)	E_p = I4.I9 - I4.35	NaJ(Tl)	45 - I35	yield, spectra and angular distributions of the photons from the (p,γ_0) reaction; widths of the resonance at I4.23 MeV; symmetry of the mirror transitions	77022
^{13}N	(p,γ)	E_p = 40	NaJ(Tl)	60	spectra of the photons	79020
^{13}N	(p,γ)	≤ 50	-	-	spectrum of the photons; analysis of the previously published data	79026

continuation

I	2	3	4	5	6	7
^{13}N	$(\vec{p},\gamma)$	E_p = I0 - I7	NaJ(Tl)	43 - I37	spectra and angular distributions of the photons; differential cross sections for the (p,γ_0) reaction; EI- and E2- cross sections	80026
^{13}N	$(\vec{p},\gamma)$	E_p = I4.2I - - I4.26	NaJ	55 - I25	spectra and angular distributions of the photons; cross section for the (p,γ_0) reaction	80027
^{13}N	(p,γ)	E_p = 0.8 - 2.0	activity	-	yield; lifetime of ^{13}N nucleus	80028
^{14}N	(p,γ)	E_p = I.75	Ge(Li); NaJ(Tl)	0 - 90	spectrum and angular distributions of the photons; mixing ratios; branching ratio; transition widths	760I9
^{14}N	(p,γ)	E_p = I.68 - - I.72	Ge(Li); NaJ(Tl)	0 - $\pm$ 90	yield and angular distribution of the photons; spin, parity and isospin for the level at 9.I3; branching ratio; mixing ratios	78020
^{14}N	(p,γ)	8.488 - 9.I30	Ge(Li)	0 - 90	spectra and angular distributions of the photons; lifetimes of the levels; branching ratios	7802I
^{14}N	(e,e')	E_e = 40.6 - 60.2	-	I80	spectra of the electrons; differential cross sections; form factors; widths of the levels; multipolarities of the transitions	79027

I	2	3	4	5	6	7
^{14}N	(γ,γ')	≤ 32	Ge(Li)	I35	spectra of the photons; energies and integrated cross sections for the populated levels; integrated cross section for the $(\gamma,d\gamma')$ reaction	80015
^{14}N	(p,γ)	$E_p = 3.775$	Ge(Li)	0 - I35	spectra and angular distributions of the photons; transition strengths; reduced widths	80029
^{14}N	(γ,n)	I7 - 26	time-of-flight	48 - I39	spectra and angular distributions of the neutrons; cross section for the (γ,n_o) reaction	80030
^{14}N	$(\vec{p},\gamma)$	E_p = 6.25 - - I7.00	NaJ	30 - I54	spectra and angular distributions of the photons; differential cross sections for the (p,γ_o), (p,γ_I) and (γ,p_o) reactions; analyzing powers for the $(\vec{p},\gamma_o)$ and $(\vec{p},\gamma_I)$ reactions; EI and E2 T-matrix amplitudes and phases	80031
^{14}N	(e,d)	E_e = I8 - 29	magnetic spectrometer	42 - I38	angular distributions of the deuterons; cross section for the (γ,d_o) reaction; multipole (E0, EI, E2) transition strengths	80032
^{15}N	$(\vec{p},\gamma)$	E_p = I0 - I8	NaJ	43 - I37	angular distributions of the photons from the $(\vec{p},\gamma_o)$ reaction; cross section; E2 cross section	76020

I	2	3	4	5	6	7
^{15}N	(p,γ)	E_p = 2.5 - 3.7	Ge(Li)	0 - 125	spectrum and angular distribution of the photons; yield curves; spins, widths of the transitions; mixing ratios; branching ratios	76021
^{15}N	(d, γ)	E_d = 2.90 - 9.95	NaJ(Tl)	30 - 130	spectra and angular distributions of the photons from the (d,γ_0) reaction; differential cross sections; integrated cross sections	76022
^{15}N	(γ,xγ')	15 - 35	Ge(Li)	112	spectrum of the photons; cross sections of the (γ,nγ'), (γ,pγ') and (γ,tγ') reactions; integrated cross sections for (γ,n) and (γ,p) reactions to various final states	76023
^{15}N	$(\vec{p},\gamma)$	E_p = 4.0 - 16.2	NaJ	50 - 130	spectrum and angular distributions of the photons; excitation curve for (p,γ_0) reaction; analyzing powers; E2 cross section; sum rule exhaustion	76024
^{15}N	(t,γ)	15.7 - 17.6	NaJ(Tl)	0 - 135	angular distributions of the photons; differential cross section for the (t,γ_0) reaction; energies, spins, parities and widths of the levels; reduced probabilities of the transitions	77023

I	2	3	4	5	6	7
$I5_N$	(α,γ)	I5 - 24	NaJ(Tl)	90	differential cross section for the $(\alpha\gamma_0)$ reaction	77024
$I5_N$	(e,e')	4.5 - I5.7	-	48 - I35	spectra of the electrons; form factors and widths of the levels; multipolarities of the transitions	77025
$I5_N$	(γ,t)	-	-	-	discussion of the two-step processes in the photonuclear reactions on the basis of the previously obtained data	77026
$I5_N$	(α,γ)	I5.5 - I9.5	NaJ(Tl)	0 - I35	spectra and angular distributions of the photons; differential cross sections for the reaction (α,γ_0); spins, parities and widths of the levels	78022
$I5_N$	(e,e')	E_e = 52.0 - - I93.5	magnetic spectrometer	48 - I4I	differential and integrated form factors; radiative widths	78023
$I5_N$	(d,γ)	E_d = I.I - - 4.2	NaJ(Tl)	95	differential cross section for the reaction (d,γ_0)	78024
$I5_N$	(e,t); (γ,t)	20 - 25	magnetic spectrometer	90	differential cross section for the (γ,t_0) reaction	79028

continuation

I	2	3	4	5	6	7
^{15}N	(γ,d); (d,γ); $(\bar{d},\gamma)$	18.5 - 28.5	magnetic spectrometer; NaJ	30 - 150	angular distributions of the deuterons and photons; differential cross section ($\theta = 90^{o}$) for the $^{15}N(\gamma,d_{o})$ reaction; EI T-matrix elements and phases for the resonance at E = 21.9	79029
^{15}N - ^{209}Bi	(γ,γ') (γ,n)	-	-	-	analysis of the previously published data for 32 nuclei	79030

Z = 8 OXYGEN A = 15 16 17 18

1	2	3	4	5	6	7
^{15}O	(p,γ)	E_p = 1.742, 1.806	Ge(Li); NaJ(Tl)	0 - 150	yield and angular distributions of the photons; γ-γ angular correlations; energies, spins, and parities of the levels	77027
^{15}O	(p,γ)	10.22 - 10.57	Ge(Li)	90	spectra of the photons; differential cross sections for the transitions to the various levels of the residual nucleus; energies and widths of the levels; branching ratios	77028
^{15}O	(^{3}He, γ)	$E_{^3He}$ = 5.24 - 13.95	NaJ(Tl)	90	differential cross section for the reaction (^{3}He,γ_0)	78029
^{16}O	(e,e')	-	-	-	exchange forces contribution dependence on transfer momentum	76003
^{16}O	(γ,n)	≤ 28	recoil-proton spectrometer	90	pseudo-ground state differential cross section for the (γ,Xn) reaction	76015
^{16}O	(γ,Xγ')	15 - 35	Ge(Li)	112	spectrum of the photons; cross sections of the (γ,nγ') and (γ,pγ') reactions; integrated cross sections for (γ,n) and (γ,p) reactions to various final states;	76023

1	2	3	4	5	6	7
^{16}O	(α,γ)	E = 6.5 - 8.5	NaJ	90	yields; spectra of the photons; cross section for the (α,γ_0) reaction	76025
^{16}O	(e,e')	E_e = 148	magnetic spectrometer	70	spectrum of the electrons; form factor	76026
^{16}O	(γ,p)	40 - 105	-	-	momentum distributions	76027
^{16}O	$(\gamma,2n)$	100 - 800	activity	4π	yield; total cross section	77014
^{16}O	(γ,p)	40 - 105	magnetic spectrometer	30 - 150	spectra of the protons; differential and total cross sections for the (γ,p_0) reaction; angular distributions of the protons from the (γ,p_0) reaction	77029
^{16}O	(p,γ)	18 - 33	NaJ(Tl)	0 - 180	spectra of the photons; differential cross sections for the (p,γ_0) and $(p,\gamma_1 + \gamma_2)$ reactions; angular distributions of the photons from the $(p,\gamma_1 + \gamma_2)$ reaction; γ-γ angular correlations; spins, parities and widths of the levels	77030
^{16}O	(γ,p)	100 - 300	magnetic spectrometer	45 - 135	differential cross sections for the (γ,p_0) reaction	77031

I	2	3	4	5	6	7
$I6_0$	$(\vec{p},\gamma)$	20 - 24	NaJ(Tl)	45, I35	total cross section for the $(\vec{p},\gamma_0)$ reaction; angular distribution of the photons; analyzing power; amplitudes and the relative phases of the proton channels; energies and widths of the interfering resonances	77032
$I6_0$	(e,e')	E_e = 60	energy-loss spectrometer	II7	spectrum of the electrons	78009
$I6_0$	(p,γ)	20.2 - 29.0	NaJ(Tl)	32 - I35	spectra and angular distributions of the photons; differential cross section for the reaction (p,γ_0); relative yield for the photons from the reaction $(p,\gamma_I - \gamma_4)$	78026
$I6_0$	(γ,n)	$\leq$ 25.0	scintillator	-	spectra of the neutrons	78027
$I6_0$	(^{3}He,γ)	25 - 30	NaJ(Tl)	0 - I80	spectra of the photons; angular distributions of the photons from the $(^3He,\gamma_0)$ reaction; differential cross sections for the $(^3He,\gamma_0)$, $(^3He,\gamma_I + \gamma_2)$, and $(^3He,\gamma_3 + \gamma_4)$ reactions	79031
$I6_0$	(γ,n$_0$)	25 - 45	time-of-flight	22.5-I35.0	spectrum of the neutrons; angular distribution of the neutrons from the (γ,n_0) reaction; differential cross section for the (γ,n_0) reaction; total cross section for E2-contribution into the (γ,n_0) reaction	79032

1	2	3	4	5	6	7
^{16}O	$(\vec{p},\gamma)$	16 - 20	NaJ	45 - 125	angular distributions of the photons; differential cross section for the (p,γ_0) reaction; energies, widths, and reduced transition probabilities for the MI-resonances	79033
^{16}O	(γ,γ)	$\leq$ 32	NaJ(Tl)	90	cross section	80019 E
^{16}O	(γ,n)	$\leq$ 160	time-of-flight	0 - 150	angular distribution of the neutrons; differential cross section for the neutrons from the (γ,n_0) reaction; angular distribution of the (γ,p_0)-to-(γ,n_0) cross section ratio	80024
^{16}O	(γ,p)	$\leq$ 120	diffusion cloud chamber in magnetic field	0 - 180	angular distributions of the protons; total and differential cross sections; $1/2^+$-, and $3/2^-$- states production cross sections	80033 E
^{16}O	(γ,n)	15.9 - 39.7	BF_3	4π	cross section for the (γ,n_{tot}) reaction; integrated cross sections and moments	80034
^{17}O	$(^3He,\gamma)$	21.4 - 25.0	NaJ(Tl)	0 - 135	spectrum and angular distributions of the photons; cross sections for the (τ,γ_0) and (τ,γ_I) reactions; cross section for the $(\tau,\gamma_0+\gamma_I)$ reaction; energies, spins, parities of the states;	76028
^{17}O	(e,e')	9 - 35	magnetic spectrometer	75.1	spectra of the electrons; form factors; energies, spins, parities and widths of the levels	77033

I	2	3	4	5	6	7
$I7_0$	(e,e); (e,e')	E_e = 62.5 - - I25.0	-	79 - I45	spectra of the electrons; form factors; radiative widths of the levels; reduced transition probabilities	78028
$I7_0$	(γ,n)	4.3 - 6.8	time-of-flight	90, I35	spectra of the neutrons; differential cross sections for the reaction (γ,n_0); radiative widths of the transitions	78029
$I7_0$	(γ,n)	5 - 33	time-of-flight	98	differential cross section for the (γ,n_0) reaction; energies and widths of the levels	79034
$I7_0$	(γ,n)	8.5 - 39.7	BF_3	4π	cross sections for the $(\gamma,n_{tot}) = [(\gamma,n) + (\gamma,pn) + (\gamma,\alpha n) + (\gamma,2n)]$, $(\gamma,In) = [(\gamma,n) + (\gamma,pn) + (\gamma,\alpha n)]$, and $(\gamma,2n)$ reactions; integrated cross sections and moments; cross sections for different isospin components	80034
$I7_0$	(t,γ)	E_t = 0.8-3.3	NaJ(Tl)	0 - I35	spectrum and angular distributions of the photons; differential cross sections for the (t,γ_0) and (t,γ_I) reactions; energies, spins, parities and widths of the levels	80035
$I8_0$	$(\gamma,X\gamma')$	≤ 28	Ge(Li)	I25	integrated cross sections for the (γ,n), (γ,p) and (γ,α) reactions to various final states	76029

continuation

1	2	3	4	5	6	7
^{18}O	(γ,p)	≤ 30	activity	4π	cross section; integrated cross sections	76030
^{18}O	(γ,n)	8 - 33	scintillator	4π	cross sections for the $[(\gamma,n) + (\gamma,pn) + 2(\gamma,2n) + 2(\gamma,2np)]$, $[(\gamma,n) + (\gamma,pn)]$, $[(\gamma,2n) + (\gamma,2np)]$ and $[(\gamma,n) + (\gamma,pn) + (\gamma,2n) + (\gamma,np)]$ reactions; integrated cross sections	76031
^{18}O	(γ,n); (γ,p)	8.0 - 41.8	BF_3	4π	total and integrated cross sections for the (γ,p), $((\gamma,n) + (\gamma,np))$, $(\gamma,2n)$, $((\gamma,n) + (\gamma,np) + (\gamma,2n))$, and $((\gamma,p) + (\gamma,n) + (\gamma,np) + (\gamma,2n))$ reactions; integrated cross sections for the separated isospin components	79035
^{18}O	(e,e')	$E_e = 44.7 - 59.1$	energy-loss spectrometer	105 - 153	spectra and angular distributions of the electrons; M1 and M2 transition strengths	80036
^{18}O	(γ,p); (γ,n)	8 - 29	activity; BF_3	4π	cross sections for (γ,p) and $[(\gamma,n) + 2(\gamma,2n)]$ reactions; parameters of the resonances in cross sections	80037

Z = 9 F L U O R I N E A = $^{18}_{19}$

1	2	3	4	5	6	7
^{18}F	(p,γ)	E_p = 1.4 - 2.8	Ge(Li)	0 - 90	angular distributions of the photons; yield of the 0.937 photons; spins, parities, isospins and widths of the levels; transition strengths	78030
^{18}F	(p,γ) (α,γ)	E_p = 0.67; E_α = 2.35, 2.53	-	0, 90	spectra of the photons; yields; energies, spins, parities and widths of the resonances; branching ratios	79036
^{19}F	(γ,n)	19 - 60	activity	-	yield and cross section for (γ,2n) reaction; integrated cross sections	76032
^{19}F	(α,γ)	E_α = 4.465, 4.618	Ge(Li)	0 - 90	spectrum and angular distributions of the photons; lifetimes of the levels; mixing ratios; branching ratios; transition strengths	76033
^{19}F	(γ,n)	13 - 21	time-of-flight	90	spectra of the neutrons; differential cross sections for the (γ,n_o), (γ,n_I) and (γ,n_o+n_I) reactions integrated cross sections	76034

continuation

I	2	3	4	5	6	7
^{19}F	(γ,α)	-	-	-	discussion of the two-step processes in the photo-nuclear reactions on the basis of the previously obtained data	77026
^{19}F	(α,γ)	6.3 - 7.2	Ge(Li) NaJ(Tl)	0 - I80	yield, spectra and angular distributions of the photons; energies, spins, parities and widths of the levels; branching ratios; mixing ratios; strengths of the resonances	77034
^{19}F	(α,γ)	8.2 - I0.6	Ge(Li) NaJ(Tl)	55	yields and spectra of the photons; energies, spins, parities and widths of the levels; branching ratios	78031
^{19}F	(p,γ)	E_p = 0.630 - - 2.260	Ge(Li)	55	spectra of the photons; branching ratios	78032
^{19}F	(γ,n); (γ,p); (γ,α)	I4 - 30	Ge(Li)	I50	spectra of the de-excitation photons; yield curves for the (γ,p) and (γ,α) reactions; differential cross sections for the (γ,p) and (γ,α) reactions for the transitions to the various final states; integrated cross sections for various reactions	79037

I	2	3	4	5	6	7
^{19}F	(α,γ)	E_α = I.68-I.84	Ge(Li)	0 - I40	yield; spectra of the photons; energies, spins, parities and lifetimes of the levels; transition multipolarities; branching ratios	80038
^{19}F	(p,γ)	E_p = 0.08-2.20	Ge(Li)	0 - 90	angular distributions of the photons; excitation functions; energies, spins, parities and widths of the levels; transition strengths; branching ratios; spectroscopic factors; astrophysical reaction rates	80039

Z = 10 NEON A = 20, 22

1	2	3	4	5	6	7
^{20}Ne	(α,γ)	E_α = 6.93 - 9.70	Ge(Li); NaJ(Tl)	0 - 75	yield, spectra and angular distributions of the photons from the (α,γ_I) reaction; energies, spins, parities, isospins and widths of the levels; branching ratios; strengths of the resonances	77035
^{20}Ne	(α,γ)	4.25 - 10.27	Ge(Li)	55	spectra of the photons; branching ratios for 2^+, T=1 state; transition strengths; radiative widths; weak magnetism form factors	77098
^{20}Ne	(e,e')	E_e = 60 - 120	magnetic spectrometer	75.0-127.5	spectra of the electrons; form factors; reduced transition probabilities	78033
^{20}Ne	(α,γ)	E_α = 6.9-10.2	Ge(Li); NaJ(Tl)	20 - 169	angular distributions of the photons; differential cross sections for the reactions (α,γ_0), (α,γ_1) and (α,γ_2); energies, spins, parities, isospins and widths of the levels; transition strengths; branching ratios	78034

continuation

I	2	3	4	5	6	7
^{20}Ne	(p,γ)	E_p = 0.2 - I.2	Ge(Li); NaJ(Tl)	- I50 - + I50	spectra and angular distributions of the photons; excitation curves for the (p,γ_I) and (p,γ_3) reactions; spins, parities and widths of the resonances; transition strengths	79038
^{20}Ne	$(\vec{p},\gamma)$; (p,γ)	I5.5 - 23.2	NaJ	45 - I35	differential cross sections for (p,γ_0) and (p,γ_0) reactions; angular distributions of the photons; ^1P-, ^3P-amplitudes	80040
^{20}Ne	(α,γ)	E_α = 9.02	Ge(Li)	46 - I27	spectra of the photons; cross section, resonance strength, Γ_γ-width for the 8^+, $K^\pi = 0^+$ level at II.95 MeV	8004I
^{20}Ne	(α,γ)	8.7 - I2.5	Ge(Li); NaJ(Tl)	25 - I35	yield; angular distributions of the photons; energies, spins, parities; isospins, electromagnetic transition rates for the levels; transition multipolarities; branching ratios	80042
^{20}Ne	(α,γ)	5.782, 7.I56	Ge(Li)	50, I30	spectra of the photons; transition strengths; radiative widths; branching ratios	80043
^{22}Ne	(γ,γ)	≤ I8	Ge(Li)	90, I25	spectrum of the photons; energies, widths, and lifetimes of the levels; reduced transition probabilities	79039

Z = II S O D I U M A = 21, 22, 23

I	2	3	4	5	6	7
^{21}Na ^{22}Na ^{23}Na	(p,γ)	E_p = I.205 E_p = 0.5-2.0 E_p = I.3	Ge(Li)	55	yield and spectra of the photons; widths and strengths of the resonances; branching ratios	77036
^{23}Na	(γ,n)	30 - 68	activity	4π	yield curve	78019
^{23}Na	(p,γ)	E_p = I.I-2.0	Ge(Li); NaJ(Tl)	0 - 90	spectra and angular distributions of the photons; yield; energies, spins, parities and lifetimes of the levels; resonance strengths; mixing ratios; branching ratios	79040
^{23}Na	(γ,Xγ')	⩽ 32	Ge(Li)	I35	spectra of the photons; differential cross section for the (γ,pγ') reaction to I.27 MeV level	80044 E
^{23}Na	(α,γ)	I2.3 - I3.6	NaJ	55	excitation functions; energies, spins, parities and widths of the resonances	80045

Z = I2 M A G N E S I U M A = 24, 25, 26, 27

I	2	3	4	5	6	7
^{24}Mg	(γ,p) ; (γ,α); (γ,Xγ')	⩽ 30	E Δ E Ge(Li)	I25	spectra of the protons and photons; cross section for the (γ,α) reaction; integrated cross sections for reactions to various final states	76035
^{24}Mg	(e,e')	8 - 23	-	I20, I60	spectra of the electrons; M6 form factor; spin, parity and isospin of the level at I5.045 MeV	77037
^{24}Mg	(p,γ)	E_p = 3.902 - - 3.92I	Ge(Li)	0, 55	yield and spectra of the photons; branching ratios for the lower T=2 level	77038
^{24}Mg	(γ,pn)	30 - 68	activity	4π	yield curve	78019
^{24}Mg	(e,^{I2}C)	E_e = 2I - 32	policarbonate films	45, 90	angular distributions; differential cross sections; contributions of E0 and E2 excitations	78035
^{24}Mg	(p,γ)	E_p = 3.90 - - 3.92	NaJ	90	yield and spectra of the photons; total width of the lowest T=2 state	78036
^{24}Mg	(p,γ)	E_p = 3.90I - - 3.9II	NaJ(Tl)	90	yield; total width of the lowest T=2 resonance	78037

continuation

1	2	3	4	5	6	7
^{24}Mg	$(^{12}C,\gamma)$	19 - 25	NaJ(Tl)	45	spectra of the photons; differential cross sections for the reactions $(^{12}C,\gamma_0)$ and $(^{12}C,\gamma_I)$; spin, parity, width and strength of the resonance at 21.98	78038
^{24}Mg	(α,γ)	E_α = 3 - 6	Ge(Li); NaJ(Tl)	-	yields, spectra and angular distributions of the photons; energies, spins, parities, isospins and widths of the levels; strengths of the resonances; reduced transition probabilities; branching ratios; mixing ratios	78039
^{24}Mg	(γ,p)	$\leq$ 30	Si(Li)	90	spectra of the photons; partial cross sections for the various final states; cross sections for the transitions from (1d-2s)- and (1p)-shells; differential cross sections	7904I E
^{24}Mg	(α,γ)	11.6 - 14.3	-	-	spectra of the photons; spins, parities, isospins and widths of the levels; resonance strengths; reduced transition probabilities; branching ratios	79042
^{24}Mg	(p,γ)	E_p = 0.512	Ge(Li); NaJ(Tl)	90	resonance strengths	79043

continuation

I	2	3	4	5	6	7
^{24}Mg	(α,γ)	E = 4 - I6	-	-	integrated EI-strengths for the (α,γ_0) reaction; Coulomb matrix elements	79044
^{24}Mg	$(e,f_I f_2)$	I6 - 32	E Δ E	30 - I25	cross sections for the $^{24}Mg(e,^{I6}O^{8}Be)e'$, $^{24}Mg(e,^{I2}C^{I2}C)e'$ and $^{24}Mg(e,^{20}Ne\,\alpha)e'$ reactions	80046
^{25}Mg	(γ,p); (γ,d); (γ,α); $(\gamma,X\gamma')$	≤ 30	E Δ E Ge(Li)	90	spectra of the protons and photons; differential cross sections for the (γ,p_0), (γ,d) and (γ,α) reactions; integrated cross sections for the reactions to various states	76035
^{25}Mg	(n,γ)	E_n = 0.000I - - I.8000	scintillator	-	cross section; resonance parameters	76036
^{25}Mg	(γ,p)	30 - 68	activity	4π	yield curve	78019
^{26}Mg	(γ,α); $(\gamma,X\gamma')$	≤ 30	E Δ E; Ge(Li)	90	cross section for the (γ,α) reaction; integrated cross sections for reactions to various final states	76035
^{26}Mg	(n,γ)	E_n = 0.000I - - I.8000	scintillator	-	cross section; resonance parameters	76036
^{26}Mg	(γ,p)	I9 - 27	Si(Li)	90	average excitation energies of the final nucleus versus excitation energies of the initial nucleus; σ_p/σ_n ratios	76037

continuation

1	2	3	4	5	6	7
^{26}Mg	(γ,p)	I6 - 23	E Δ E	32 - I50	angular distributions of the protons	77039
^{26}Mg	(p,γ)	E_p = 0.5 - 0.9	Ge(Li); NaJ(Tl)	90, I25	yield curve and strength of 0.5I2 resonance	78040
^{26}Mg	(α,γ)	E_α = 4 - I6	-	-	integrated EI-strengths for the (α,γ_0) reactions; Coulomb matrix elements	79044
^{26}Mg	(γ,p)	$\leq$ 27.0	Si(Li)	90	spectra of the protons; difference spectra; partial cross sections for the transitions to the various final states; total cross section	79045 E
^{27}Mg	(n,γ)	E_n = 0.000I - - I.8000	scintillator	-	cross section; resonance parameters	76036
Mg	(χ,γ); (χ,γ')	$\leq$ II.4	-	-	analysis of the previously published data	79025

Z = 13 ALUMINIUM A = 25, 26, 27

1	2	3	4	5	6	7
^{25}Al	(p,γ)	7.901 - 7.969	Ge(Li)	-	spectra and angular distributions of the photons; energies, spins, widths, strengths and branching ratios of the resonances; mixing ratios	77040
^{26}Al	(p,γ)	E_p = 0.08 - 0.35	Ge(Li)	0, 90	spectra of the photons; yield; energies, spins, parities, widths and strengths of the resonances; branching ratios	79046
^{26}Al	(p,γ)	7.595 - 8.134	Ge(Li)	55	energies of the levels; transition intensities	80047
^{26}Al	(p,γ)	E_p = 317 - 591	NaJ(Tl)	90	resonance strengths; thermonuclear reaction rates	80048
^{26}Al	(p,γ)	E_p = 0.3 - 0.4	Ge(Li); NaJ(Tl)	0 - 90	yield, spectra and angular distributions of the photons; coincidence spectra; energies, spins, parities, isospins of the levels; transition strengths; branching ratios	80049

continuation

I	2	3	4	5	6	7
^{27}Al	(e,e')	-	-	-	exchange forces contribution dependence on transfer momentum	76003
^{27}Al	(e,e')	E_e = 248	magnetic spectrometer	70	spectrum of the electrons	76026
^{27}Al	(e,e'p)	E_e = 700	-	-	proton separation energy spectra; recoil momentum distributions	76038
^{27}Al	(e,e')	E_e = 37.3 - 60.5	magnetic spectrometer	I80	spectra of the electrons; differential cross section; widths of the levels; multipolarities of the transitions	77041
^{27}Al	(γ,αn)	30 - 68	activity	4π	yield curve	78019
^{27}Al	(e,^{6}Li); (e,^{7}Li); (e,^{8}Li); (e,^{7}Be); (e, B); (e, C)	E_e = 800	plastic track detectors	I5 - I65	spectra and angular distributions of the fragments	78041
^{27}Al	(p,γ)	E_p = 0.338 - I.000	Ge(Li); NaJ(Tl)	0 - 90	yield, spectra and angular distributions of the photons; energies, spins, parities, lifetimes of the levels; mixing ratios; branching ratios; Q-value	78042

I	2	3	4	5	6	7
^{27}Al	(p,γ)	E_p = I.965	Ge(Li); NaJ(Tl)	90	resonance strengths	79043
^{27}Al	(p,γ)	E_p = I.60-3.95	Ge(Li); NaJ	90 - I60	excitation function; angular distributions of the photons; spins, parities, and widths of the isobaric resonances; spectroscopic factors; branching ratios; Coulomb energy differences	80050
^{27}Al	(e,p); (e,d); (e,t); (e,^{3}He); (e,α)	E_e = I00	magnetic spectrometer	20 - II0	spectra of the products; differential cross sections	80051
^{27}Al	(e,e')	E_e = 70 - 340	magnetic spectrometer	90 - I80	spectra of the electrons; form factors; transition probabilities	80052
^{27}Al	(γ,tot)	3 - 30	time-of-flight	90	total photoabsorption cross section; cross section for quadrupole giant resonance; cross section for electron pair production	80053
^{27}Al	(p,γ)	E_p = 0.080 - - 0.355	Ge(Li)	0, 90	spectra and angular distributions of the photons; excitation function; energies, spins and widths of the levels; resonance strengths; branching ratios; mixing ratics	80054

Z = I4 S I L I C O N A = 28, 29, 30

I	2	3	4	5	6	7
^{28}Si	(e,e'p)	E_e = 497	magnetic spectrometer	90	missing energy spectra; momentum distributions	76014
^{28}Si	(γ,p)	-	-	-	discussion of the two-step processes in the photo-nuclear reactions on the basis of the previously obtained data	77026
^{28}Si	(γ,p); (γ,n); (γ,α)	≤28	Ge(Li)	I40	spectra of the de-excitation photons; probabilities of the population of the residual levels; integrated cross sections for the emission to various residual states	77042
^{28}Si	(p,γ)	E_p = I.439	Ge(Li)	0 - 90	spectra of the photons; energies and lifetimes of the levels; transition strengths; branching ratios	77043
^{28}Si	(e,e'^{I2}C)	23 - 34	polycarbonate films	I0 - I60	differential cross section; angular distributions of the ^{I2}C nuclei	77044
^{28}Si	(p,γ)	E_p = 2.046 - 2.483	Ge(Li)	-	yield, spectra and angular distributions of the photons; spins, parities, widths, strengths and branching ratios of the resonances; transition strengths	77045

continuation

I	2	3	4	5	6	7
^{28}Si	(p,γ)	E_p = 3.66 - 3.69	NaJ	90	yield and spectra of the photons; total width of the resonance at E_p = 3.671	78043
^{28}Si	(e,e')	I3.0 - I5.5	magnetic spectrometer	I65	spectrum of the electrons	78044
^{28}Si	(p,γ) (α,γ)	E_p = 0.5 - 2.I E_α = I.5 - 3.8	Ge(Li); NaJ(Tl)	-90 - +90	yields, spectra and angular distributions of the photons; energies, spins, parities, isospins, widths and strengths of the resonances; Q-values; branching ratios mixing ratios;	78045
^{28}Si	(p,γ)	E_p = I.2I3, I.647	Ge(Li)	-	spectra and angular distributions of the photons; energies of the resonances; transition strengths; branching ratios; mixing ratios	78046
^{28}Si	(p,γ)	E_p = 35 - 80	NaJ(Tl)	60	spectra of the photons	79020
^{28}Si	(p,γ)	$\leq$ 50	-	-	analysis of the previously published data	79026
^{28}Si	(p,γ)	E_p = 0.628 - 0.992	Ge(Li); NaJ(Tl)	90	yield; resonance strengths	79043

continuation

I	2	3	4	5	6	7
^{28}Si	(e,e')	E_e = 4 - 92	magnetic spectrometer	60 - I20	spectra of the electrons; form factors; reduced probabilities and multipolarities of the transitions; sum rule exhaustion	79047
^{28}Si	(γ,p)	⩽ 29	Si(Li)	90	spectra of the protons; total cross sections for the transitions to the various final states; cross section	79048 E
^{28}Si	(α,γ)	E_α = 3.20 - 3.8I	Ge(Li) NaJ(Tl)	55	yield; energies, spins, parities, widths and strengths of the resonances	79049
^{28}Si	(e,e')	9 - 20	magnetic spectrometer	90 , I60	spectra of the electrons; form factor for 6^-, T=I resonance at I4.36 MeV	80055
^{28}Si	(γ,γ) (γ,γ')	⩽ 3I	NaJ(Tl)	90	differential cross sections; integrated cross sections; cross sections for reactions to the individual final states	80056 E
^{28}Si	(e,e')	E_e = I26 - 293	energy-loss spectrometer	45 - I60	spectra of the electrons; form factors	80057

I	2	3	4	5	6	7
^{29}Si	(n,γ)	E_n = 3.2 - I5.0	NaJ(Tl)	90	spectra of the photons; total cross sections for the (n,γ_0) and (n,γ_I) reactions	77046
^{29}Si	(n,γ)	E_n = 2.7 - 6.2	NaJ(Tl)	90	total cross sections for the (n,γ_0) and (n,γ_I) reactions; widths of the resonances; spin and integrated cross section for the resonance at E = 4.6	79050
^{29}Si	(e,e')	E_e = I26 - 293	energy-loss spectrometer	45 - I60	spectra of the electrons; form factors	80057
^{29}Si	(n,γ)	E_n = 0.565, 0.8I3	Ge(Li); NaJ	I00	yields; spectra of the photons; absolute partial and total radiation widths of the resonances	80058
^{30}Si	(γ,p)	75 - 800	activity	4π	yield and total cross section	77047
^{30}Si	(γ,2p)	75 - 640	activity	4π	yield; total cross section	78047

Z = I5 P H O S P H O R U S A = 29, 30, 3I

I	2	3	4	5	6	7
^{29}P	(p,γ)	E_p = I.3 - 2.3	Ge(Li)	0 - 90	spectrum and angular distributions of the photons; differential cross sections for the (p,γ_0) and (p,γ_I) reactions; strengths and widths of the resonances; spectroscopic factors; branching ratios	7905I
^{30}P	(p,γ)	7.566 - 8.286	-	-	angular distributions of the photons; spins and parities of the levels; transition probabilities	76039
^{30}P	(p,γ)	-	-	-	analysis of probabilities of the γ-transitions of various multipolarities on the basis of previously obtained data	77048
^{30}P	(p,γ)	E_p = 0.73, I.75	Ge(Li)	0, I40	spectra and angular distributions of the photons; energies of γ-transitions; branching ratios; lifetimes of the levels	80059
^{3I}P	(γ,p) (γ,n)	75 - 640	activity	4π	yields; total cross sections for the (γ,2p), (γ,2n), (γ,3p), (γ,3pn) reactions	78047

continuation

1	2	3	4	5	6	7
^{31}P	(p,γ)	E_p = 0.62	Ge(Li); NaJ(Tl)	90	resonance strengths	79043
^{31}P	$(\vec{p},\gamma)$	E_p = 5 - 28	NaJ	42 - 142	spectra and angular distributions of the photons; analyzing powers; differential cross sections for (p,γ_0) and (p,γ_1) reactions; E1, E2 T-matrix amplitudes	80060

Z = I6 S U L F U R A = 32, 33, 34

I	2	3	4	5	6	7
^{32}S	(p,γ)	E_p = I.25 - I.58	Ge(Li)	0 - 90	spectra and angular distributions of the photons; spins, parities, lifetimes of the levels; mixing ratios; branching ratios; transition strengths;	76040
^{32}S	(p,γ)	-	-	-	analysis of probabilities of the γ-transitions of various multipolarities on the basis of previously obtained data	77048
^{32}S	(α,γ) (p,γ)	E_α = I.4 - 3.8 E_p = I.4 - I.5	Ge(Li); NaJ(Tl)	55, 90	yields and spectra of the photons; energies, spins, parities, widths and strengths of the resonances; branching ratios	77049
^{32}S	(γ,p); (γ,n)	$\leqslant$ 27	Ge(Li)	I50	spectra of the de-excitation photons; differential and integrated cross sections for reactions with forming of the residual nuclei in various states	77050
^{32}S	(p,γ)	E_p = 0.3 - 3.0	Ge(Li)	-	angular distributions of the photons; energies, spins, parities and widths of the levels; transition strengths; mixing ratios	77051

continuation

I	2	3	4	5	6	7
^{32}S	(p,γ)	E_p = 0.5 - 0.9	Ge(Li); NaJ(Tl)	90 ,I25	yield curve and strength of 8II keV resonance	78040
^{32}S	(γ,p)	≤ 30	Si(Li)	90	spectrum of the protons; difference spectra; cross section for the reaction (γ,p_0)	78048 E
^{32}S	(γ,p)	≤ 30	Si(Li)	90	spectra of the protons; differential cross sections for transitions in various final states	78049 E
^{32}S	(p,γ)	E_p = 0.642, 0.8II	Ge(Li) NaJ(Tl)	90	resonance strengths	79043
^{32}S	(α,γ_0)	E_α = 4 - I6	-	-	integrated EI-strength; Coulomb matrix element	79044
^{32}S	(α,γ)	II - 2I	NaJ	34 - I35	angular distributions of the photons; differential cross sections for the (α,γ_0) and (γ,α_0) reactions; total cross section for the (α,γ_0) reaction for EI- and E2-transitions; total cross section for the (γ,α_0) reaction for E2-transitions; integrated EI- and E2-strengths for (γ,α_0) reaction; phase difference of p- and d-waves	79052

continuation

I	2	3	4	5	6	7
^{33}S	(n,γ)	E_n = 3.2 - I5.0	NaJ(Tl)	90	spectra of the photons; total cross section of the (n,γ_0+ γ_I) reaction; total cross section of the (n,γ) reaction with forming of the residual nucleus in states at E≈3 MeV	77046
^{33}S	(α,γ)	E_α= I.962 - - 4.287	Ge(Li)	0 - 90	yield, spectra and angular distributions of the photons; spins and parities of the levels; multipolarities of the transitions; mixing ratios	78050
^{33}S	(n,γ)	E_n = 0.0025 - - I.I000	time-of-flight	-	cross sections; energies, spins, parities and widths of the levels	8006I
^{34}S	(α,γ)	E_α= 4 - I6	-	-	integrated EI-strengths for the (α,γ_0) reaction; Coulomb matrix elements	79044
^{34}S	(α,γ)	II - 2I	NaJ	I35	differential cross section for the (α,γ_0) reaction; total cross sections for the (α,γ_0) reaction; integrated EI- and E2-strengths for the (γ,α_0) reaction; phase difference of p- and d-waves	79052

Z = 17 CHLORINE A = 33, 34, 35, 37

1	2	3	4	5	6	7
^{33}Cl	(p,γ)	E_p = 0.4 -2.6	Ge(Li)	0 - 90	spectra and angular distributions of the photons; energies, spins, parities, lifetimes of the levels; resonance strengths; branching ratios; transition multipolarities	7604I
^{34}Cl	(p,γ)	E_p = I - 2	Ge(Li)	55, 90	yield and spectra of the photons; energies, widths and lifetimes of the levels; strengths of the resonances; branching ratios; Q-value	77052
^{34}Cl	(p,γ)	E_p = I - 2	Ge(Li); NaJ(Tl)	0 - 90	angular distributions of the photons; spins, parities and isospins of the levels; transition strengths; mixing ratios	77053
^{35}Cl	(p,γ)	E_p = I.95 - 2.9I	NaJ	55, I25	yield; spectrum of the photons; energies, spins, parities of the levels; Q-values; resonance strengths; branching ratios	76042

1	2	3	4	5	6	7
^{35}Cl	(p,γ); (γ,γ)	E_p = 2.33 - 2.79 9.08	Ge(Li)	0 - 90	yield; angular distributions of the photons; energies, spins, parities, widths of the levels; resonance strength; mixing ratios; branching ratios; intensity of the 9.08 MeV γ-rays transmitted through the absorber	76043
^{35}Cl	(p,γ)	E_p = 0.7 - 2.I	Ge(Li)	0 - 90	angular distributions of the photons; spins and parities of the levels; transition strengths; mixing ratios	77054
^{35}Cl	(p,γ)	7.358 - 7.704	-	-	angular distributions of the photons; spins of the levels; mixing ratios	77055
^{35}Cl	(p,γ)	E_p = I.2II	Ge(Li); NaJ(Tl)	90	resonance strengths	79043
^{35}Cl; ^{37}Cl	(e,e')	E_e = II6, I94	magnetic spectrometer	45 - I40	spectra of the electrons; form factors; charge distribution parameters	80062

Z = I8 A R G O N A = $^{36}_{38}$

I	2	3	4	5	6	7
^{36}Ar	(p,γ)	E_p = 2.36 - 2.42	Ge(Li); NaJ(Tl)	0 - 90	yields; spectrum and angular distributions of the photons; resonance strengths; transition strengths; branching ratios	76044
^{36}Ar ^{38}Ar	(p,γ)	E_p = 0.860 E_p = 0.847	Ge(Li); NaJ(Tl)	90	resonance strengths	79043
^{38}Ar	(α,γ)	E_α = 2.0 - 3.5	Ge(Li); NaJ(Tl)	0 - 90	spectra and angular distributions of the photons; yields; energies, spins and aprities of the levels; transition strengths; mixing ratios	79053

Z = I9 P O T A S S I U M A = 4I

I	2	3	4	5	6	7
^{4I}K	(α,γ)	E_α = 2.90 - 5.23	Ge(Li)	55	total cross section	79054

Z = 20 C A L C I U M A = 40, 41, 42, 44, 48

I	2	3	4	5	6	7
^{40}Ca	(e,e'p)	E_p = 497	magnetic spectrometer	90	missing energy spectra; momentum distributions	76014
^{40}Ca	(e,e'p)	E_e = 700 - 750	-	-	proton separation energy spectra; recoil momentum distributions	76038
^{40}Ca	(e,e')	20 - 300	magnetic spectrometer	120	spectrum of the electrons	76045
^{40}Ca	(γ,pn); (γ,3p3n)	50 - 800	activity	-	yields; cross sections	76046
^{40}Ca	(γ,p); (γ,n)	100 - 750	Ge(Li)	135	spectra of the de-excitation photons; yields of the reactions with forming of the residual nuclei in the first three excited states; spectroscopic factors for first excited states	77056
^{40}Ca	(γ,p)	30 - 68	activity	4π	yield curve	78019
^{40}Ca	(γ,p)	$\leq$ 80	magnetic spectrometer	45	spectrum of the protons	78051

continuation

I	2	3	4	5	6	7
^{40}Ca	(e,e')	E_e = I50 - 250	energy-loss spectrometer	I60	energy-loss spectra	78052
^{40}Ca	(e,e')	E_e = 33.70 - 59.76	magnetic spectrometer	92.9-I40.9	spectra of the electrons; differential cross section; E0-matrix element ($0_1^+ \rightarrow 0_2^+$ at 3.353)	78055
^{40}Ca	(p,γ)	E_p = 2.043	Ge(Li); NaJ(Tl)	90	resonance strengths	79043
^{40}Ca	(e,e')	8.2 - I2.7	magnetic spectrometer	93 - I65	spectra of the electrons; angular distribution of the electrons for the resonance at E = I0.3I9; reduced transition probabilities for the resonance at E = I0.3I9	79055
^{40}Ca	(e,e')	E_e = 39	energy-loss spectrometer	I65	spectra of the electrons; MI transition strengths	80063
^{4I}Ca	(n,γ)	E_n = 8, I2	NaJ	40 - I50	angular distributions of the photons from the reaction (n,γ_0)	78053
^{4I}Ca	(n,γ)	E_n = 6 - I3	NaJ	45 - I40	spectra and angular distributions of the photons; cross sections for the reaction (n,γ_0)	78054

I	2	3	4	5	6	7
^{41}Ca	$(\vec{n},\gamma)$	E_n = I0	-	45 - I40	angular distribution of the photons from the $(\vec{n},\gamma_0)$ reaction; analyzing power for the $(\vec{n},\gamma_0)$ reaction; relative amplitudes and phases of T-matrix elements; relative EI- and E2-strengths	79056
^{41}Ca	(p,γ)	E_p = 8.5 - I6.6	NaJ(Tl)	90	differential cross section for the (p,γ_0) reaction	80064
^{41}Ca	(n,γ)	E_n = 0.5 - II.0	NaJ(Tl)	90	cross sections for (n,γ) and (n,γ_0) reactions	80065
^{42}Ca	(α,γ)	E_α = 6 - I5	NaJ(Tl)	0 - I50	spectra and angular distributions of the photons; differential cross section for the (α,γ_0) reaction; integrated cross sections;	76047
^{42}Ca	(e,e')	E_e = 33.70 - - 59.76	magnetic spectrometer	92.9-I40.9	spectra of the electrons; differential cross section; E0-matrix element ($0_1^+ \rightarrow 0_2^+$ at 3.353)	78055
^{42}Ca	(e,e')	E_e = 39	energy-loss spectrometer	I65	spectra of the electrons; MI transition strength	80063
^{42}Ca	(γ,p); (γ,α)	I6 - 28	magnetic spectrometer	90	differential cross sections for the (γ,p), (γ,p_0), (γ,α) reactions	80II0
^{44}Ca	(α,γ)	E_α = 5.5 - II.0	NaJ(Tl)	0 - I50	angular distributions of the photons; differential cross sections for the (α,γ_0) and (α,γ_I) reactions; integrated cross sections	76045

continuation

I	2	3	4	5	6	7
^{44}Ca	(e,e'p); (e,e'α)	I5 - 25	magnetic spectrometer	90	spectra of the protons; differential cross sections for the (e,e'p), (γ,p), (γ,p_0) and (γ,α_0) reactions	77057
^{44}Ca	(e,e')	E_e = 33.70 - - 59.76	magnetic spectrometer	92.9-I40.9	spectra of the electrons; differential cross sections; EO-matrix elements ($0_1^+ \to 0_2^+$ at 3.353)	78055
^{44}Ca	(e,e')	E_e = 39	energy-loss spectro-meter	I65	spectra of the electrons; MI transitions strength	80063
^{48}Ca	(e,e')	20 - 300	magnetic spectrometer	60,I20	spectrum of the electrons; quasi-elastic cross section	76045
^{48}Ca	(γ,n)	30 - 68	activity	4π	yield curve	78019
^{48}Ca	(e,e')	E_e = 33.70 - - 59.76	magnetic spectrometer	92.9-I40.9	spectra of the electrons; differential cross sections; EO-matrix elements ($0_1^+ \to 0_2^+$ at 3.353)	78055
^{48}Ca	(e,e')	E_e = 30 - 50	energy-loss spectro-meter	I65	spectra of the electrons; MI transition strengths	80063

Z = 2I S C A N D I U M A = 4I 43 45 49

I	2	3	4	5	6	7
^{4I}Sc	(p,γ)	E_p = I.843, 4.05I	Ge(Li); NaJ(Tl); Compton polarimeter	-	yields, spectra, angular distributions and linear polarizations of the photons; spins, parities, widths and spectroscopic factors of the levels; branching ratios; mixing ratios	77058
^{4I}Sc	(p,γ)	E_p = I.843	Ge(Li); NaJ(Tl)	90	resonance strengths	79043
^{43}Sc	(p,γ)	E_p = 2.00 - 2.75	Ge(Li)	0 - 90	yield, spectra, and angilar distributions of the photons; energies, spins, and parities of the levels; branching ratios	77059
^{43}Sc	(p,γ)	E_p = 0.7 - 5.5	activity	4π	total cross section; stellar reaction rates	78056
^{43}Sc	(p,γ)	E_p = 0.66 - 5.39	activity	-	total cross section	79057

continuation

I	2	3	4	5	6	7
^{45}Sc	(p,γ)	E_p = I.62 - 2.I8	Ge(Li); NaJ(Tl)	55 , 90	spectrum of the photons; excitation functions; energies, spins, parities, widths of the resonances	76048
^{45}Sc	(e,e'p); (e,e'α)	I5 - 25	magnetic spectrometer	90	spectra of the protons; differential cross sections for the (e,e'p), (γ,p), (γ,α_0), (γ,p_0) reactions	77057
^{45}Sc	(p,γ)	E_p = I.62 - I.67	Ge(Li)	0 - 90	spectra and angular distributions of the photons; energies, spins and parities of the levels; decay schemes for the resonances at E = I.644 and I.650	79058
^{49}Sc	(p,γ)	E_p = 6.00 - 6.I7	NaJ	20- I35	angular distributions of the photons; excitation functions; resonance widths	76049
^{49}Sc	(p,γ)	E_p = 0.579 - - 2.670	Ge(Li)	-	total cross section; thermonuclear reaction rates	79059

Z = 22 T I T A N I U M A = 44, 46, 48, 49, 50

I	2	3	4	5	6	7
^{44}Ti	(α,γ)	9.28 - 9.36	Ge(Li); NaJ(Tl)	0 - 90	yields and spectra of the photons; transition strengths; widths of the levels; branching ratios	78057
^{44}Ti	(α,γ)	9.215 - 9.239	Ge(Li)	0 - 180	spectra and angular distributions of the photons; energies, spins, parities and isospins of the levels; branching ratios; transition strengths; isovector matrix elements	80066
^{46}Ti	(e,e'p); (e,e'α)	15 - 25	magnetic spectrometer	90	spectra of the protons; differential cross sections for the (e,e'p), (γ,p), (γ,α_0), (γ,p_0) reactions	77057
^{46}Ti	(γ,n)	30 - 68	activity	4π	yield curve	78019
^{46}Ti	(p,γ)	E_p = 0.7 - 4.2	Ge(Li); NaJ(Tl)	55	yield; total cross section	78058

continuation

I	2	3	4	5	6	7
^{46}Ti	(γ,n)	I2 - I5	activity	-	total cross section	79060
^{48}Ti	(γ,p)	30 - 68	activity	4π	yield curve	78019
^{48}Ti	(γ,n)	I5.0 - 27.5	BF_3	4π	cross section	80067
^{49}Ti	(γ,p)	30 - 68	activity	4π	yield curve	78019
^{50}Ti	(γ,n)	$\leq$ 26	BF_3	4π	spectrum of the neutrons; total cross section for the $((\gamma,n) + (\gamma,2n))$ reaction; differential cross section for the (γ,n_0) reaction	79061

Z = 23 V A N A D I U M A = 50, 51, 52

I	2	3	4	5	6	7
^{50}V	(p,γ)	E_p = 0.74 - 3.25	Ge(Li)	55	cross section; thermonuclear reaction rates	80068
^{51}V	(e,e'p)	E_e = 700	-	-	proton separation energy spectra; recoil momentum distributions	76038
^{51}V	(γ,xpyn)	75 - 800	activity	-	yields of the reaction products for x = 2-II, y = 2-I6; cross sections; branching ratios; mean cross section distributions for different elements; total isobaric cross sections	76050
^{51}V	(γ,d); (γ,αn)	30 - 68	activity	4π	yield curves	78019
^{51}V	(e,e'p); (γ,p)	I5 - 29	magnetic spectrometer	90	spectrum of the protons; differential cross sections; total cross sections for the reaction (γ,p); isospin components	78059

continuation

1	2	3	4	5	6	7
$^{51}I_{\gamma}$	(p,γ)	E_p = 2.1 - 3.1	Ge(Li)	55, 90	spectrum of the photons; relative intensities of the primary γ-rays; strength function; spins and parities of the levels;	79062
$^{51}I_{\gamma}$	(γ,p)	15.8 - 26.0	magnetic spectrometer	90	spectra and angular distributions of the protons; differential cross sections for the (γ,p_0) reaction	79063
$^{51}I_{\gamma}$	(p,γ)	E_p = 0.73 - 4.39	Ge(Li)	55	cross section; thermonuclear reaction rates	80069
$^{52}I_{\gamma}$	(n,γ)	E_n = 0.0026 - 0.2150	time-of-flight	-	total cross sections; energies, widths and strengths of the resonances	78060

Z = 24 CHROMIUM A = 50, 52

I	2	3	4	5	6	7
^{50}Cr	$(\gamma,2n)$; (γ,pn)	30 - 68	activity	4π	yield curves	78019
^{52}Cr	(α,γ)	E_α = 6 - I2	NaJ(Tl)	0 - I50	angular distributions of the photons; differential cross sections for the (α,γ_0) and (α,γ_I) reactions; integrated cross sections	76047
^{52}Cr	(e,e); (e,e')	E_e = 40 - II0	solid state detectors	I27.5	cross sections; charge distribution parameters	76051
^{52}Cr	(γ,n)	30 - 68	activity	4π	yield curve	78019
^{52}Cr	(γ,γ')	$\leq$ 35	Ge(Li)	I35	differential cross sections for the transition to the 2^+ level at E = I.43	79064 E
^{52}Cr	(γ,p)	I5 - 26	magnetic spectrometer	90	spectra and angular distributions of the photons; differential cross sections for the (γ,p_0+p_I) reaction	79063

continuation

1	2	3	4	5	6	7
^{52}Cr	(γ,γ)	$\leq$ I2	Ge(Li)	I25, I50	spectra of the photons; energies and widths of the levels; reduced transition probabilities	79065
^{52}Cr	(γ,γ); (γ,γ')	$\leq$ 3I	NaJ(Tl)	90	differential cross sections; integrated cross sections; cross sections for reactions to the individual states	80056
^{52}Cr	(p,γ)	E_p = 0.93 - 4.47	Ge(Li)	55	cross section	80070
Cr	(γ,n)	8 - 27	BF_3	4π	total cross section	77060

Z = 25 MANGANESE A = 53, 55, 56

1	2	3	4	5	6	7
^{53}Mn	(p,γ)	E_p = I.00 - I.05	Ge(Li)	0	yields; width and strength of the resonance at E_p = I.005	79066
^{53}Mn	(p,γ)	E_p = 4.08 - 4.32	Ge(Li)	0 - 90	angular distributions of the photons; yields; energies, spins, parities and widths of the levels; transition strengths; branching ratios; mixing ratios	79067
^{55}Mn	(γ,n)	≤ 30	activity	4π	integrated cross sections; effective energy ranges; effective cross sections; gross structure of the bremsstrahlung spectra	77018
^{55}Mn	(γ,n)	30 - 68	activity	4π	yield curve	78019
^{55}Mn	(p,γ)	E_p = 0.83 - 3.6I	Ge(Li)	55	total cross section	78052
^{55}Mn	(γ,γ); (γ,γ')	≤ II.4	-	-	analysis of the previously published data	79025

I	2	3	4	5	6	7
^{55}Mn	(γ,n)	I0.0 - 36.5	BF_3	4π	cross sections for the $((\gamma,n) + (\gamma,pn) + (\gamma,2n) + (\gamma,3n)$, $((\gamma,n) + (\gamma,pn))$, $(\gamma,2n)$ and $(\gamma,3n)$ reactions; integrated cross sections and moments; giant dipole resonance parameters	79068
^{55}Mn	(p,Y)	E_p = I.0 - 3.8	Ge(Li)	90	spectrum of the photons; total cross section	79069
^{56}Mn	(n,Y)	E_n = 0.003 - 0.060	time-of-flight		total cross section; energies, widths and strengths of the resonances	78063

Z = 26 I R O N A = 54 55 56 57 58

I	2	3	4	5	6	7
^{54}Fe	(γ,n)	≤ 35	scintillator	-	spectra of the neutrons; cross sections for the neutrons of various energies	76052
^{54}Fe	(γ,n)	≤ 30	activity	4π	integrated cross sections; effective energy ranges; effective cross sections; gross structure of the bremsstrahlung spectra	77018
^{54}Fe	(γ,n)	15 - 26	scintillator	-	spectra of the neutrons; total cross sections for the neutrons of various energies	7706I E
^{54}Fe	(γ,pn); $(\gamma,2n)$	30 - 68	activity	4π	yield curves	78019
^{54}Fe	(γ,n)	12 - 28	activity	4π	total cross section	7806I
^{55}Fe	(p,γ)	$E_p = 3.40 - 3.48$	Ge(Li)	25 - 125	spectra and angular distributions of the photons; spins, parities, widths of the resonances; γ-transition rates; Coulomb energy differences; spectroscopic factors	79070

continuation

I	2	3	4	5	6	7
^{56}Fe	(p,γ); (α,γ)	E_p = 4.0 - II.7 E_α = 7.0 - I4.0	NaJ	90	spectrum of the photons from the (p,γ_0) reactions; differential cross sections for the (γ,p_0) and (γ,α_0) reactions	76053
^{56}Fe	(γ,n)	I5 - 26	scintillator	-	spectra of the neutrons; total cross sections for the neutrons of various energies	77061 E
^{56}Fe	(γ,pn); (γ,αn)	30 - 68	activity	4π	yield curve	78019
^{56}Fe	(γ,γ)	≤ I2	Ge(Li)	I25, I50	spectra of the photons; energies and widths of the levels; reduced transition probabilities	79065
^{56}Fe	(e,e')	E_e = I00.3 - - 372.6	magnetic spectrometer	90 - I60	cross sections; form factors	80071
^{57}Fe	(γ,p)	30 - 68	activity	4π	yield curve	78019
^{58}Fe	(γ,n)	≤ I3.25	scintillator	78	differential cross section	76054
^{58}Fe	(n,γ)	E_n = 0.025 - - 0.200	liquid scintillator	-	spectra of the photons; cross section; widths of the s- and p-wave resonances	80072

Z = 27 COBALT A = 55, 57, 58, 59

I	2	3	4	5	6	7
^{55}Co	$(\vec{p},\gamma)$	E_p = 8 - I5	NaJ	50 - I30	spectrum and angular distribution of the photons; cross sections for the (p,γ_0) reaction; differential cross section for (γ,p_0) reaction	76055
^{55}Co	(p,γ)	E_p = I.5 - 2.9	Ge(Li); NaJ(Tl)	0 - I27	yield, spectra and angular distributions of the photons; energies, spins, parities, widths and lifetimes of the levels; strengths of the resonances; mixing ratios	77062
^{55}Co	(p,γ)	E_p = I.72I - 2.227	Ge(Li)	55	absolute strengths of the resonances	77063
^{55}Co	(p,γ)	E_p = I.I0 - I.76	Ge(Li); NaJ(Tl)	0 - 90	spectra and angular distributions of the photons; energies, and spins of the levels; resonance strengths; gamma widths	80073
^{57}Co	$(\vec{p},\gamma)$	E_p = 8.0 - I4.5	NaJ	50 - I30	spectrum and angular distribution of the photons; cross sections for the $(\vec{p},\gamma_0)$ reaction; differential cross section for the (γ,p_0) reaction	76055

continuation

1	2	3	4	5	6	7
^{57}Co	(p,γ)	E_p = I.72I - 2.227	Ge(Li)	55	absolute strengths of the resonances	77063
^{57}Co	(p,γ)	E_p = 3.66 - 3.85	Ge(Li)	0 - 90	yields and angular distributions of the photons; spins, parities and widths of the levels; absolute probabilities and strengths of the transitions; mixing ratios	78064
^{57}Co	(p,γ)	8.6 - 9.7	Ge(Li)	0 - 90	spectra and angular distributions of the photons; yields; energies, spins, and parities of the levels; strength of the resonances; reduced transition probabilities	79071
^{58}Co	(p,γ)	E_p = I.72I - 2.227	Ge(Li)	55	absolute strengths of the resonances	77063
^{59}Co	$(\vec{p},\gamma)$	E_p = 7.6 - I5.0	NaJ	50 - I30	spectrum and angular distribution of the photons; cross sections for the $(\vec{p},\gamma_0)$ reaction; differential cross section for the (γ,p_0) reaction	76055
^{59}Co	(p,γ)	E_p = I.72I - 2.227	Ge(Li)	55	absolute strengths of the resonances	77063
^{59}Co	(γ,n)	30 - 68	activity	4π	yield curves	78019

continuation

I	2	3	4	5	6	7
^{59}Co	(e,e'p); (γ,p)	I5 - 29	magnetic spectrometer	90	spectrum of the protons; differential cross sections; total cross sections for the reaction (γ,p); isospin components	78059
^{59}Co	(γ,n)	I0.0 - 36.5	BF_3	4π	cross sections for the ((γ,n) + (γ,pn) + (γ,2n) + + (γ,3n)), ((γ,n) + (γ,pn)), (γ, 2n) and (γ,3n) reactions; integrated cross sections and moments; giant dipole resonance parameters	79068

Z = 28 N I C K E L A = 58, 59, 60, 62, 64

I	2	3	4	5	6	7
^{58}Ni	(e,e'p)	E_e = 497	magnetic spectrometer	90	missing energy spectra; momentum distributions	76014
^{58}Ni	(γ,p)	18 - 21	Si(Li)	90	difference spectra of the protons	76037
^{58}Ni	(e,e')	E_e = 40 - 75	magnetic spectrometer	163, 180	spectra of the electrons; differential cross sections; M1 and M2 components	76056
^{58}Ni	(γ,p)	18 - 32	Si(Li)	90	spectra of the protons; difference spectra; relative probabilities of the decay to the various states of final nucleus	77064 77065
^{58}Ni	(e,e')	10 - 25	-	40	spectra of the electrons; form factors	77066
^{58}Ni	(γ,n) (γ,pn); (γ,2n)	30 - 68	activity	4π	yield curves	78019

continuation

I	2	3	4	5	6	7
^{58}Ni	(e,e')	E_e = I20.4 - 263.9	energy-loss spectrometer	I20 - I80	spectra of the electrons; differential cross sections; form factors	78065
^{58}Ni	(α,γ)	E_α = 7.6 - I2.8	NaJ(Tl)	30 - I50	spectrum and angular distributions of the photons; differential cross sections for the reactions (α,γ_0) and (γ,α_0); ratio of the cross sections for E2 and EI excitations	78066
^{58}Ni	(e,e'p); (e,e'α)	E_e = I2 - 35	-	-	total cross sections for the (e,e'p), (γ,p), (e,e'α) and (γ,α) reactions; parameters of the EI- and E2- giant resonances	79072
^{58}Ni	(e,p); (e,α)	E_e = I6 - 50	-	48 - I32	total cross sections; parameters of the (γ,p) reaction cross section; parameters of the EI- and E2- componenets of the (γ,α) reaction cross section	79073
^{58}Ni	(e,e')	3 - 50	magnetic spectrometer	45 - I05	spectra and angular distributions of the electrons; cross sections; multipolarities of the transitions; reduced matrix elements; sum rule exhaustion	80074
^{58}Ni	(e,e'p); (e,e'α)	E_e = I2 - 35	EΔE	90, II0	yields and cross sections; integrated cross sections; contributions of the EI and E2 components; difference α-spectra	80075

continuation

I	2	3	4	5	6	7
^{58}Ni	(e,p); (e,α)	E_e = I6 - 50	magnetic spectrometer	48 - I32	spectra of the products; differential cross sections; cross sections; contributions of the EI and E2 components	80076
^{59}Ni	(n,γ)	E_n = 0.5 - II.0	NaJ(Tl)	90	cross section	80065
^{60}Ni	(γ,p)	I7.5 - 32.0	Si(Li)	90	spectra of the protons	76057
^{60}Ni	(e,e')	E_e = 40 - 60	magnetic spectrometer	I63, I80	spectra of the electrons; differential cross sections; MI and M2 components	76056
^{60}Ni	(p,γ)	E_p = I.50 - 3.05	NaJ(Tl)	55	yield; isobaric analog resonances; Coulomb displacement energy	76057
^{60}Ni	(γ,p)	I7.5 - 28.0	Si(Li)	90	spectra of the protons; differential spectra; relative probabilities of the decay to the various states of final nucleus	77064 77065
^{60}Ni	(e,e')	I0 - 25	-	40	spectra of the electrons; form factors	77056
^{60}Ni	(γ,γ')	I5 - 22	NaJ(Tl)	I20	spectrum of the photons; differential cross sections	78067

I	2	3	4	5	6	7
^{60}Ni	$(\vec{p},\gamma)$	E_p = 5.8 - I6.5	NaJ	50 - I30	spectrum and angular distributions of the photons; differential cross section for the reaction (p,γ_0); analyzing power; amplitudes and phases of the transition matrix elements	78068
^{60}Ni	(e,p); (e,α)	E_e = I6 - 50	-	48 - I32	total cross sections; parameters of the (γ,p) reaction cross section; parameters of the EI- and E2-components of the (γ,α) reaction cross section	79073
^{60}Ni	(α,γ)	E_α = 4.2 - 7.I	Ge(Li)	0	spectrum of the photons; total cross section for the transitions with E_γ = I.322	79074
^{60}Ni	(e,e'p); (e,e'α)	E_e = I2 - 35	E Δ E	90, II0	yields and cross sections; integrated cross sections; contributions of the EI and E2 components	80075
^{60}Ni	(e,e')	3 - 50	magnetic spectrometer	45 - I05	spectra and angular distributions of the electrons; cross sections; multipolarities of the transitions; reduced matrix elements; sum rule exhaustion	80074
^{60}Ni	(e,p); (e,α)	E_e = I6 - 50	magnetic spectrometer	48 - I32	spectra of the products; differential cross sections; cross sections; contributions of the EI and E2 components	80076

continuation

I	2	3	4	5	6	7
^{62}Ni	(e,p); (e,α)	E_e = I6 - 50	-	48 - I32	total cross sections; parameters of the (γ,p) reaction cross section; parameters of the EI- and E2-components of the (γ,α) reaction cross section	79073
^{62}Ni	(e,p); (e,α)	E_e = I6 - 50	magnetic spectrometer	48 - I32	spectra of the products; differential cross sections; cross sections; contributions of the EI and E2 components	80076
^{64}Ni	(e,e')	I0 - 25	-	40	spectra of the electrons; form factors	77066
Ni	(e,α)	50	magnetic spectrometer	30	excitation functions for (e,α) and (γ,α) reactions; E2 contributions	80077

Z = 29 C O P P E R A = 59, 61, 63, 65

I	2	3	4	5	6	7
^{59}Cu	(p,γ)	E_p = 0.8 - I.94	Ge(Li); NaJ(Tl)	90	yield and spectra of the photons; energies and widths of the resonances; branching ratios; reduced probabilities of the transitions	77067
^{59}Cu	(p,γ)	E_p = 0.8 - I.94	Ge(Li); NaJ(Tl)	0 - 90	spectra and angular distributions of the photons; excitation functions; energies, spins, parities and widths of the resonances; intensities of the transitions; reduced transition probabilities; mixing ratios	78070
^{59}Cu	(p,γ)	E_p = I - 5	NaJ(Tl)	90	cross section; thermonuclear reaction rates	80078
^{61}Cu	(p,γ)	E_p = 3.69 - 3.79	Ge(Li); NaJ(Tl)	55	spectra of the photons; excitation functions; intensities of the transitions; reduced transition probabilities; resonance widths; MI strengths distribution; Coulomb energy differences	76058

continuation

I	2	3	4	5	6	7
^{61}Cu	(p,γ)	E_p = I.57 - I.86	Ge(Li); NaJ(Tl)	0 - 90	spectra and angular distributions of the photons;	78070
^{61}Cu	(p,γ)	E_p = I.60 - 3.I4	Ge(Li)	90	spectra of the photons; yields; energies, spins, parities and widths of the resonances; branching ratios	79075
^{63}Cu	(e,e'n)	-	-	-	comparison of the absolute cross sections for the electro- and photodisintegration	770I7
^{63}Cu	(e,α)	E_e = I00	positive-ion spectrometer	30 - I50	spectra and angular distributions of the α-particles	77068
^{63}Cu	(p,γ)	E_p = 2.48I - 2.659	Ge(Li)	0 - 90	angular distributions of the photons; spins of the resonances; mixing ratios	77069
^{63}Cu	(p,γ)	E_p = I.4 - 3.0	Ge(Li)	-	spectra and angular distributions of the photons; differential cross sections; energies and the levels; mixing ratios	77070
^{63}Cu	(p,γ)	E_p = 3	spectrometer of γ-γ coincidences	0 - 90	spectrum of the γ-γ coincidences; angular correlations; spin of the level at I546.5 keV; mixing ratios	7707I

continuation

I	2	3	4	5	6	7
^{63}Cu	$(\gamma,2n)$; $(\gamma,\alpha n)$	30 - 68	activity	4π	yield curve	78019
^{63}Cu	(p,γ)	E_p = 2.44 - 2.68	-	-	spectra and angular distributions of the photons	78070
^{63}Cu	(p,γ)	E_p = 3.74 - 3.81	Ge(Li)	0 - 90	yields and angular distributions of the photons; energies, spins and parities of the resonances; transition strengths	78071
^{63}Cu	(p,γ)	E_p = 3.766 - - 3.865	Ge(Li)	0, 90	spectra and angular distributions of the photons; yields; branching ratios for the level at E = 9.863	79076
^{63}Cu	(γ,n)	12 - 25	activity		total cross section; yield	79077 E
^{63}Cu	(p,γ)	E_p = 1.9 - 2.4	Ge(Li)	55	spectra of the photons; γ-ray strengths functions for E1 transitions	80079
^{63}Cu	(p,γ)	0 - 4.19	Ge(Li)	-	intensities of the transitions; widths of the γ-lines; spectroscopic factors	80080
^{65}Cu	(γ,n)	30 - 68	activity	4π	yield curve	78019

continuation

I	2	3	4	5	6	7
^{65}Cu	(p,γ)	E_p = 3.10 - 3.30	NaJ(Tl)	0 - 90	spectra and angular distributions of the photons	78070
^{65}Cu	(p,γ)	E_p = 3.1 - 3.3	Ge(Li)	0 - 90	yield and angular distributions of the photons; characteristics of γ-decay for the resonance at E_p = 3.219	78072
^{65}Cu	(p,γ)	E_p = 2.05 - 2.55	Ge(Li); NaJ(Tl)	55, 90	spectra of the photons; relative intensities of the transitions; strength function; spins and parities of the levels	79078
^{65}Cu	(p,γ)	0 - 4.19	Ge(Li); NaJ(Tl)	-	intensities of the transitions; widths of the γ-lines; spectroscopic factors	80080
Cu	(e,∝)	E_e = 100	positive-ion spectrometer	30 - 150	angular distributions of the ∝-particles	78069

Z = 30 Z I N C A = 64, 66, 68, 70

I	2	3	4	5	6	7
^{64}Zn	(e,e')	E_e = 40.8 - 111.8	magnetic spectrometer	58.0 - 128.4	spectrum of the electrons; differential cross sections for the reaction to various final states; reduced transition probabilities	76050
^{64}Zn	(γ,n)	8 - 30	scintillator	-	cross sections for the $[(\gamma,n) + (\gamma,pn)]$, $(\gamma,2n)$, $[(\gamma,n) + (\gamma,pn) + (\gamma,2n)]$ reactions; integrated cross sections and moments; sum rule exhaustion; isospin components	76051
^{64}Zn	(p, γ)	E_p = 3.145 - 3.275	Ge(Li); NaJ(Tl)	0, 90	excitation functions; intensities of the transitions; spins, parities, widths of levels; resonance strengths; asymmetry ratios $I(0^o)/I(90^o)$	76059
^{64}Zn	(e,e')	5 - 35	-	-	energies and widths of the levels; multipolarities and reduced probabilities of the transitions	77072

continuation

I	2	3	4	5	6	7
^{64}Zn	(e,e')	E_e = I49.4 - - 280.4	magnetic spectrometer	34 - 60	spectra of the electrons; form factors; energies and widths of the resonances; reduced probabilities of the transitions; contributions of the various multipolarities	77073
^{64}Zn	(e,e')	E_e = I49.4 - - 280.4	magnetic spectrometer	34 - 60	spectra of the electrons; form factors; reduced probabilities and multipolarities of the transitions;	77074
^{64}Zn	(γ,n)	I5.0 - 26.3	scintillator	-	total cross section; spectra of the neutrons; difference spectra	78027 E
^{64}Zn	(e,e')	0 - 90	-	34 - 60	spectra of the electrons; form factors; reduced transition probabilities	78073
^{64}Zn	(p,γ)	E_p = 2.I - 3.I	Ge(Li)	55	spectra of the photons; relative intensities of γ-rays; γ-ray strengths functions; energies, spins, and parities of the levels	80081
^{66}Zn	(e,e')	E_e = 40.8 - - III.8	magnetic spectrometer	58.0 - - I28.4	differential cross sections for the reaction to various final states; reduced transition probabilities	78050

continuation

I	2	3	4	5	6	7
^{66}Zn	(p,γ)	E_p = I.I - 3.3	Ge(Li)	55	yield	78074
^{66}Zn	(α,γ)	E_α = 5.07 - 8.64	Ge(Li)	55	total cross section	79054
^{66}Zn	(p,γ)	E_p = I.7 - 7.2	Ge(Li)	55	spectra of the photons; relative intensities of γ-rays; γ-ray strengths functions; energies, spins, and parities of the levels;	80081
^{68}Zn	(e,e')	E_e = 40.8 - - III.8	magnetic spectrometer	58.0 - - I28.4	differential cross sections for the reaction to various final states; reduced transition probabilities	76060
^{68}Zn	(γ,p)	75 - 800	activity	4π	yield and total cross section	77047
^{68}Zn	(α,γ)	E_α = 4.50 - 7.45	Ge(Li)	55	total cross sections	79054
^{70}Zn	(e,e')	E_e = 40.8 - - III.8	magnetic spectrometer	58.0 - - I28.4	differential cross sections for the reaction to various final states; reduced transition probabilities	76060
Zn	(p,γ)	E_p = I.2 - 3.3	Ge(Li)	55	spectrum of the photons; excitation functions for the reactions $^{63,65}Cu(p,\gamma)$	78075

Z = 31 G A L L I U M A = 65, 67, 69

1	2	3	4	5	6	7
^{65}Ga ^{67}Ge	(p,γ)	E_p = 2.90 - 2.95 E_p = 3.33 - 3.50	Ge(Li)	0 - 90	spectra and angular distributions of the photons; yields; energies and strengths of the resonances; reduced transition probabilities; branching ratios; mixing ratios	79079
^{69}Ga	(p,γ)	E_p = 3.2 - 3.8	Ge(Li)	0 - 90	spectra and angular distribution of the photons; energies, widths and strengths of the resonances	78076
Ga	(γ,n)	8 - 30	scintillator	-	cross sections for the [(γ,n) + (γ,np)] , (γ,2n), [(γ,n) + (γ,pn) + (γ,2n)] reactions; integrated cross sections and moments; sum rule exhaustion; isospin components	76061

Z = 32 G E R M A N I U M A = 70, 72, 74, 76

I	2	3	4	5	6	7
^{70}Ge ^{72}Ge ^{74}Ge ^{76}Ge	(γ,n)	8 - 30	scintillator	-	cross sections for the $[(\gamma,n) + (\gamma,pn)]$, $(\gamma,2n)$, $[(\gamma,n) + (\gamma,pn) + (\gamma,2n)]$ reactions; integrated cross sections and moments; sum rule exhaustion; isospin components	76061
Ge	(γ,γ')	7.28, 7.63	absorption method; Ge(Li); NaJ(Tl)	-	absorption spectra; scattering spectra; energies and widths of the levels;	77078

Z = 33 A R S E N I C A = 71, 73, 75

I	2	3	4	5	6	7
^{71}As ^{73}As	(p,γ)	E_p = 6.2 - 8.0 E_p = 7.8 - 9.1	Ge(Li)	90	strength functions; relative level population intensities	79080
^{75}As	(γ,n)	8 - 30	scintillator	-	cross sections for the [(γ,n) + (γ,pn)] , (γ,2n), [(γ,n) + (γ,pn) + (γ,2n)] reactions; integrated cross sections and moments; sum rule exhaustion; isospin components	76061
^{75}As	(p,γ)	E_p = 7.2 - 9.4	Ge(Li)	90	strength functions; relative level population intensities	79080

continuation

Z = 34 S E L E N I U M A = 76, 78, 80, 82

I	2	3	4	5	6	7
^{76}Se	(γ,n)	8 - 30	scintillator	-	cross sections for the $[(\gamma,n) + (\gamma,pn)]$, $(\gamma,2n)$, $[(\gamma,n) + (\gamma,pn) + (\gamma,2n)]$ reactions; integrated cross sections and moments; sum rule exhaustion; isospin components	7606I
^{76}Se	(γ,tot)	9 - 20	-	-	total photoabsorption cross section	78077
^{78}Se; ^{80}Se; ^{82}Se	(γ,n)	8 - 30	scintillator	-	cross sections for the $[(\gamma,n) + (\gamma,pn)]$, $(\gamma,2n)$, $[(\gamma,n) + (\gamma,pn) + (\gamma,2n]$ reactions; integrated cross sections and moments; sum rule exhaustion; isospin components	7606I
^{82}Se	(γ,tot)	9 - 20	-	-	total photoabsorption cross section	78077

continuation

Z = 37 R U B I D I U M A = 85

1	2	3	4	5	6	7
^{85}Rb	-	-	-	-	systematics of the peak positions of the giant dipole resonance; analysis of the isospin effects	77075

Z = 38 S T R O N T I U M A = 88 89

1	2	3	4	5	6	7
^{88}Sr	-	-	-	-	systematics of the peak position of the giant dipole resonance; analysis of the isospin effects	77075
^{88}Sr	(γ,γ)	≤ I4	Ge(Li)	I25 - I50	spectra of the photons; energies, spins and widths of the levels	80082
^{89}Sr	(n,γ)	E_n = 7 - II	NaJ(Tl)	55 - I20	energy dependence of the angular distribution coefficients for reactions (n,γ_0) and (n,γ) for the transitions to the $3s_{1/2}$ states of ^{89}Sr	78079

Z = 39 Y T T R I U M A = 85, 87, 89, 90

1	2	3	4	5	6	7
^{85}Y ^{87}Y	(p,γ)	E_p = 5.7 - 7.8 E_p = 6.4 - 9.0	Ge(Li)	90	strength functions; relative level population intensities	79080
^{89}Y	(γ,n)	≤ 55	activity	-	isomeric cross section ratios; spin cut-off parameters	76062
^{89}Y	-	-	-	-	systematics of the peak position of the giant dipole resonance; analysis of the isospin effects	77075
^{89}Y	(e,e')	2 - 55	magnetic spectrometer	75- 120	spectra of the electrons; form factors; energies and widths of the levels; reduced probabilities of the transitions	77076
^{89}Y	(γ,n)	30 - 68	activity	4π	yield curve	78019
^{89}Y	(p,γ)	E_p = 6.2 - 9.4	Ge(Li)	90	strength functions; relative level population intensities	79080

continuation

I	2	3	4	5	6	7
^{89}Y	(γ,p)	I3.0 - 24.6	Ge(Li)	37 - I43	angular distributions of the protons from the (γ,p_0) and (γ,p_I) reactions; differential cross sections for (γ,p_0) and (γ,p_I) reactions	• 80083
^{90}Y	(n,γ)	E_n = 6.2 - I5.6	NaJ(Tl)	90	spectra of the photons; total cross section for the reaction $(n,\gamma_0+\gamma_I)$; total cross section for the reaction (n,γ) for transition to ^{89}Y levels below 4.5	78078
^{90}Y	(n,γ)	E_n = 7 - II	NaJ(Tl)	40 - I40	spectra of the photons; energy dependence of the angular distribution coefficients for the reactions $(n,\gamma_0+\gamma_I)$ and (n,γ) for the transitions to the $2d_{5/2}$ and $3s_{1/2}$ states of ^{90}Y	78079
^{90}Y	(n,γ)	E_n = 0.5 - II.0	NaJ(Tl)	90	cross section for $(n,\gamma_0+\gamma_I)$ reaction	80065

continuation

Z = 40 Z I R C O N I U M A = 90, 91, 92, 94

1	2	3	4	5	6	7
^{90}Zr	(e,e')	6 - 30	-	30 - I55	differential form factors; transition probabilities; sum rule exhaustion	76063
^{90}Zr	(γ,p); (γ,n)	I2 - 30	Si(Li); activity	30 - I55	spectra of the protons; cross sections for the reactions to various final states; integrated cross sections	76064
^{90}Zr	-	-	-	-	systematics of the peak position of the giant dipole resonance; analysis of the isospin effects	77075
^{90}Zr	(p,γ)	22 - 35	NaJ(Tl)	55 - I25	angular distributions of the photons; contributions of the various multipolarities	77077
^{90}Zr	(γ,n) (γ,pn)	30 - 68	activity	4π	yield curves	78019
^{90}Zr	(e,e')	E_e = 44	magnetic spectrometer	I65	spectrum of the electrons	78044

continuation

I	2	3	4	5	6	7
^{90}Zr	(p,γ)	E_p = 5.8 - 9.3	Ge(Li)	90	strength functions; relative level population intensities	79080
^{90}Zr	(e,α)	E_α = I3.5 - 66.5	magnetic spectrometer	45 - I35	spectrum and angular distributions of the alphas; cross section for the (e,α), (γ,α) and (γ,α_0) reactions	80084
^{90}Zr	(e,e')	8 - I0	magnetic spectrometer	I4I-I65	spectra of the electrons; form factors; energies, spins, parities of the levels; transition strengths; excitation functions	80085
^{90}Zr	(α,γ)	E = 9.0 - I2.5	NaJ(Tl)	45 - I35	yields and spectra of the photons from the (α,γ_0) reaction; EI and E2 contributions to the (γ,α_0) cross sections	80086
^{91}Zr ^{92}Zr ^{94}Zr	-	-	-	-	systematics of the peak positions of the giant dipole resonance; analysis of the isospin effects	77075

continuation

Z = 41 N I O B I U M A = 93

1	2	3	4	5	6	7
^{93}Nb	-	-	-	-	systematics of the peak position of the giant dipole resonance; analysis of the isospin effects	77075
^{93}Nb	(γ,n); $(\gamma,\alpha n)$	30 - 68	activity	4π	yield curve	78019
^{93}Nb	$(\underline{\gamma},\gamma')$	6.517	Ge(Li)	100 - 150	spectra, angular distributions and polarization of the photons; spins, parities and widths of the levels	78080
^{93}Nb	$(\underline{\gamma},n)$	6.742 - 9.403	ionization chamber	-	spectra of the neutrons; Q-values	79081

Z = 42 M O L Y B D E N U M A = 92, 94, 96, 97, 98, 100

I	2	3	4	5	6	7
^{92}Mo	(γ,n)	$\leq$ 55	activity	-	isomeric cross section ratios; spin cut-off parameters	76062
^{92}Mo	-	-	-	-	systematics of the peak position of the giant dipole resonance; analysis of the isospin effects	77075
^{92}Mo	(e,α)	E_e = 100	positive-ion spectrometer	30 - 150	spectrum and angular distributions of the α-particles	78069
^{92}Mo	(γ,2n)	30 - 68	activity	4π	yield curve	78019
^{94}Mo	-	-	-	-	systematics of the peak positions of the giant dipole resonance; analysis of the isospin effects	77075
^{94}Mo	(γ,pn); (γ,αn)	30 - 68	activity	4π	yield curve	78019
^{96}Mo	-	-	-	-	systematics of the peak positions of the giant dipole resonance; analysis of the isospin effects	77075

continuation

1	2	3	4	5	6	7
^{96}Mo ^{97}Mo	(γ,p)	30 - 68	activity	4π	yield curve	78019
^{98}Mo	-	-	-	-	systematics of the peak positions of the giant dipole resonance; analysis of the isospin effects	77075
^{100}Mo	(γ,n)	≤ 55	activity	-	isomeric cross section ratios; spin cut-off parameters	76062
^{100}Mo	-	-	-	-	systematics of the peak positions of the giant dipole resonance; analysis of the isospin effects	77075
^{100}Mo	(γ,n)	30 - 68	activity	4π	yield curve	78019

Z = 45 R H O D I U M A = $^{103}_{104}$

1	2	3	4	5	6	7
^{103}Rh	-	-	-	-	systematics of the peak positions of the giant dipole resonance; analysis of the isospin effects	77075
^{104}Rh	(n,Y)	E_n = 0.5 - 3.0	NaJ	-	spectra of the photons; strength functions	79082

continuation

Z = 46 P A L L A D I U M A = 108 / 110

1	2	3	4	5	6	7
^{108}Pd	(γ,n)	≤ 55	activity	-	isomeric cross section ratios; spin cut-off parameters	76062
^{110}Pd	(e,e); (e,e')	E_e = 40 - 110	solid state detectors	127.5	cross sections; charge distribution parameter; branching ratios	76051
^{110}Pd	(γ,n)	≤ 55	activity	-	spin cut-off parameters	76062

Z = 47 S I L V E R A = 107

1	2	3	4	5	6	7
^{107}Ag	(e,e'n)	-	-	-	comparison of the absolute cross sections for the electro- and photodisintegration	77017
^{107}Ag	(e,α)	E_e = 100	positive-ion spectrometer	50	spectra of the α-particles	77068
^{107}Ag	-	-	-	-	systematics of the peak positions of the giant dipole resonance; analysis of the isospin effects	77075

continuation

Z = 48 C A D M I U M A = 111 112 114 116

I	2	3	4	5	6	7
^{111}Cd ^{112}Cd	(J,n)	6.742 - 9.403	ionization chamber	-	Q-values	7908I
^{114}Cd	(e,e); (e,e')	E_e = 40 - 110	solid state detectors	127.5	cross sections; charge distribution parameters; branching ratios	7605I
^{114}Cd ^{116}Cd	(J,n)	6.742 - 9.403	ionization chamber	-	Q-values	7908I
Cd	(J,J')	7.28 - 7.65	absorption	-	absorption spectra; scattering spectra; energies and widths of the levels	7707S

Z = 49 I N D I U M A = $^{111}_{115}$

1	2	3	4	5	6	7
^{111}In	(p,γ)	E_p = 8 - 22	NaJ(Tl)	45 - 135	spectrum and angular distribution of the photons; differential cross sections for the $^{110}Cd(p,\gamma_0)$ and $^{110}Cd(p,\sum_{i=1}^{I}\gamma_i)$ reactions	79083
^{115}In	(γ,n); (γ,γ')	≤ 30	activity	4 T	integrated cross sections; effective energy ranges; effective cross sections; gross structure of the bremsstrahlung spectra	77018
^{115}In	-	-	-	-	systematics of the peak positions of the giant dipole resonance; analysis of the isospin effects	77075
^{115}In	(γ,n)	6.742 - 9.403	ionization chamber	-	Q-value	79081

Z = 50 T I N A = II6, II7, II8, II9, I20, I24

I	2	3	4	5	6	7
^{II6}Sn	(e,e); (e,e')	E_e = 40 - II0	solid state detectors	I27.5	cross sections; charge distribution parameters; branching ratios	76051
^{II6}Sn	-	-	-	-	systematics of the peak position of the giant dipole resonance; analysis of the isospin effects	77075
^{II6}Sn	(p,γ)	E_p = 8 - 27	NaJ(Tl)	90	spectrum of the photons; differential cross sections for the $^{II5}In(p,\gamma_0)$ and $^{II5}In(p,\gamma_T)$ reactions	79083
^{II7}Sn ^{II8}Sn ^{II9}Sn ^{I20}Sn	-	-	-	-	systematics of the peak positions of the giant dipole resonance; analysis of the isospin effects	77075
^{I20}Sn	($\underline{\gamma}$,γ')	6.73	Ge(Li)	90 - I35	spectra and angular distributions of the photons; spins and widths of the resonances	78081

continuation

I	2	3	4	5	6	7
^{124}Sn	(e,e')	5 - 35	-	-	energies and widths of the levels; reduced probabilities and multipolarities of the transitions	77072
^{124}Sn	-	-	-	-	systematics of the peak position of the giant dipole resonance; analysis of the isospin effects	77075
^{124}Sn	(e,e')	E_e = 150, 225	-	30 - 74	spectra of the electrons; form factors; reduced EI-E7 transition probabilities	78082
Sn	(γ,γ)	2.5 - 3.5	-	90	differential cross section	80087

Z = 5I ANTIMONY $A = \frac{I2I}{I23}$

I	2	3	4	5	6	7
^{I2I}Sb	$(\underline{\gamma},n)$	6.742- 9.403	ionization chamber	-	Q-value	7908I
^{I23}Sb	$(\underline{\gamma},\gamma')$	$\leq$ 7.3I	Ge(Li)	I50	spectra and angular distributions of the photons; spins of the levels	78080
^{I23}Sb	$(\underline{\gamma},n)$	6.742 - 9.403	ionization chamber	-	Q-value	7908I
Sb	$(\underline{\gamma},\gamma)$	2.5 - 3.5	-	90	differential cross section	80087

Z = 52 T E L L U R I U M A = I24, I26, I28, I30

1	2	3	4	5	6	7
$I24_{Te}$	(γ,n)	8 - 26	scintillator	-	cross sections for the [(γ,n) + (γ,pn)] , (γ,2n), [(γ,n) + (γ,pn) + (γ,2n)] reactions; integrated cross sections	76065
$I24_{Te}$	-	-	-	-	systematics of the peak positions of the giant dipole resonance; analysis of the isospin effects	77075
$I26_{Te}$	(γ,n)	8 - 26	scintillator	-	cross sections for the [(γ,n) + (γ,pn)] , (γ,2n), [(γ,n) + (γ,pn) + (γ,2n)] reactions; integrated cross sections	76065
$I26_{Te}$	-	-	-	-	systematics of the peak positions of the giant dipole resonance; analysis of the isospin effects	77075
$I28_{Te}$	(γ,n)	8 - 26	scintillator	-	cross sections for the [(γ,n) + (γ,pn)] , (γ,2n), [(γ,n) + (γ,pn) + (γ,2n)] reactions; integrated cross sections	76065
$I28_{Te}$	-	-	-	-	systematics of the peak positions of the giant dipole resonance; analysis of the isospin effects	77075

continuation

I	2	3	4	5	6	7
^{130}Te	(γ,n)	8 - 26	scintillator	-	cross sections for the $[(\gamma,n) + (\gamma,pn)]$, $(\gamma,2n)$, $[(\gamma,n) + (\gamma,pn) + (\gamma,2n)]$ reactions; integrated cross sections	76065
^{130}Te	(γ,p)	75 - 800	activity	4π	yield and total cross section	77047
^{130}Te	-	-	-	-	systematics of the peak positions of the giant dipole resonance; analysis of the isospin effects	77075

Z = 55 C E S I U M A = I33

1	2	3	4	5	6	7
$I33_{Cs}$	-	-	-	-	systematics of the peak positions of the giant dipole resonance; analysis of the isospin effects	77075

Z = 56 B A R I U M A = I38

I	2	3	4	5	6	7
^{138}Ba	-	-	-	-	systematics of the peak positions of the giant dipole resonance; analysis of the isospin effects	77075
^{138}Ba	(γ,γ); (γ,γ')	≤ 5.1	Ge(Li)	96, I26	spectra and angular distribution of the photons; linear polarization; energies, spins, parities, widths of the levels; transition strengths	77099

Z = 57 L A N T H A N U M A = 139 / 140

1	2	3	4	5	6	7
^{139}La	-	-	-	-	systematics of the peak positions of the giant dipole resonance; analysis of the isospin effects	77075
^{139}La	$(\underline{\gamma},\gamma')$	7.28, 7.63	absorption method	-	absorption spectra; scattering spectra; energies and widths of the levels	77078
^{139}La	(e,e'p)	14.3 - 17.3	magnetic spectrometer	125.3	spectra of the protons; difference spectra; yields for the reaction (e,e'p); differential cross sections for the reactions (e,e'p), (γ,p) and (γ,p_0)	78083
^{139}La	(e,p)	15 - 25	magnetic spectrometer	125.3	spectra of the protons; differential cross sections for the (e,p) and (γ,p) reactions; isochromat for $5.4 < E_p < 7.2$ MeV; cross section moments for different isospin components	80088
^{140}La	(d,γ)	E_d = 8 - 26	Ge(Li)	-	total cross section	79084

Z = 58 C E R I U M A = I40, I4I, I42

I	2	3	4	5	6	7
^{140}Ce	$(\underline{\gamma},n)$	8 - 26	scintillator	-	cross sections for the $[(\gamma,n) + (\gamma,pn)]$, $(\gamma,2n)$, $[(\gamma,n) + (\gamma,pn) + (\gamma,2n)]$ reactions; integrated cross sections	76065
^{140}Ce	(γ,n)	≤ 9.7	time-of-flight	90, I35	spectra and angular distribution of the neutrons; integrated EI and MI strengths; EI and MI transition widths for (γ,n_0) reaction	76066
^{140}Ce	-	-	-	-	systematics of the peak position of the giant dipole resonance; analysis of the isospin effects	77075
^{140}Ce	(e,e')	4 - 48	magnetic spectrometer	90, I05	spectra of the electrons; form factors; widths of the levels; reduced probabilities and multipolarities of the transitions; sum rules exhaustion	79085
^{141}Ce	(n,γ)	E_n = 6.2 - I5.6	NaJ(Tl)	90	spectra of the photons; total cross section for the reaction (n,γ) for the transitions to states at 5.44 (^{141}Ce) and 5.I5 (^{143}Ce); total cross section for the reaction (n,γ) for the transitions to states below 3.50 in ^{141}Ce	78078

continuation

1	2	3	4	5	6	7
$I42_{Ce}$	$(\underline{\gamma},n)$	8 - 26	scintillator	-	cross sections for the $[(\gamma,n) + (\gamma,pn)]$, $(\gamma,2n)$, $[(\gamma,n) + (\gamma,pn) + (\gamma,2n)]$ reactions; integrated cross sections	76065
$I42_{Ce}$	-	-	-	-	systematics of the peak positions of the giant dipole resonance; analysis of the isospin effects	77075
Ce	(e,e')	5 - 46	-	90 - 105	spectra of the electrons; form factors	78084
Ce	$(\underline{\gamma},\gamma)$	2.5 - 3.5	-	90	differential cross section	80087

Z = 59 PRASEODYMIUM A = I4I

I	2	3	4	5	6	7
^{I4I}Pr	-	-	-	-	systematics of the peak positions of the giant dipole resonance; analysis of the isospin effects	77075
^{I4I}Pr	$(\underline{\gamma},\gamma')$	7.28, 7.63	absorption method	-	absorption spectra; scattering spectra; energies and widths of the levels	77078
^{I4I}Pr	(e,e'p)	E_e = I4.2 - - I7.3	magnetic spectrometer	I25.3	spectra of the protons; difference spectra; yield of the reaction (e,e'p); differential cross sections for the reactions (e,e'p), (γ,p) and (γ,p_o)	78083
^{I4I}Pr	(e,p)	I5 - 25	magnetic spectrometer	I25.3	spectra of the protons; differential cross sections for the (e,p) and (γ,p) reactions; isochromat for $5.4 < E_p < 7.2$ MeV; cross section moments for different isospin components	80088

continuation

Z = 60 NEODYMIUM A = I42, I43, I44, I46

1	2	3	4	5	6	7
$I42_{Nd}$	(γ,n)	≤ 55	activity	-	isomeric cross section ratios; spin cut-off parameters	76062
$I42_{Nd}$	-	-	-	-	systematics of the peak positions of the giant dipole resonance; analysis of the isospin effects	77075
$I42_{Nd}$	(e,e'p)	I5.9 - 26.0	magnetic spectrometer	45 - I32	spectra and angular distributions of the protons; differential cross sections for the (e,e'p), (γ,p), $(\gamma,p_0 + p_I)$ reactions	77079
$I43_{Nd}$; $I44_{Nd}$; $I46_{Nd}$	-	-	-	-	systematics of the peak positions of the giant dipole resonance; analysis of the isospin effects	77075
Nd	$(\underline{\gamma},\gamma)$	2.5 - 3.5	-	90	differential cross section	80087

Z = 62 S A M A R I U M A = I44 I48 I50 I52 I54

1	2	3	4	5	6	7
^{144}Sm; ^{148}Sm; ^{150}Sm	-	-	-	-	systematics of the peak positions of the giant dipole resonance; analysis of the isospin effects	77075
^{152}Sm; ^{154}Sm	(e,e')	E_e = 35 - 110	magnetic spectrometer	92.5 - 145.0	spectra of the electrons; form factors; cross sections; transition charge parameters	76067
^{154}Sm	(γ,tot)	8 - 30	-	-	total photoabsorption cross section; $\Delta\Gamma = \Gamma \perp (E_2 - E_1)$ values for deformed nuclei	78107 E
^{154}Sm	(γ,tot)	7 - 20	scintillator	0	total photoabsorption cross sections; electromagnetic cross sections	80089

Z = 64 G A D O L I N I U M A = 156

1	2	3	4	5	6	7
^{156}Gd	(γ,tot)	8 - 30	-	-	total photoabsorption cross section; $\Delta\Gamma = \Gamma - (E_2 - E_I)$ values for deformed nuclei	78I07 E
^{156}Gd	(γ,tot)	7 - 20	scintillator	0	total photoabsorption cross sections; electromagnetic cross sections	80089

continuation

Z = 65 T E R B I U M A = $^{159}_{160}$

1	2	3	4	5	6	7
^{159}Tb	(γ,n)	≤ 22	BF_3; scintillator	4π	cross sections for the $[(\gamma,n) + 2(\gamma,2n)]$, $(\gamma,2n)$, $[(\gamma,n) + (\gamma,2n)]$ reactions; integrated cross sections and moments; parameters of deformation; quadrupole moment	76068
^{159}Tb	(e,e'p)	15 - 23	magnetic spectrometer	125.3	differential cross section; displacement energies and deformation parameter of isobaric analogue states; radiative widths	76069
^{159}Tb	(e,α)	E_e = 100	positive-ion spectrometer	50	spectra of the α-particles	77068
^{159}Tb	(γ,γ')	8.53 - 11.39	Ge(Li)	90 - 140	spectra and angular distributions of the photons; elastic and Raman inelastic scattering differential cross sections	77080
^{159}Tb	(e,α)	E_e = 100	positive-ion spectrometer	30 - 150	spectrum and angular distribution of the α-particles	78069
^{160}Tb	(n,γ)	E_n = 0.0026 - 0.7000	time-of-flight	-	total cross section; energies and strengths of the resonances	78035

Z = 66 D Y S P R O S I U M A = I62

I	2	3	4	5	6	7
^{162}Dy	(e,α)	E_e = 100	positive-ion spectrometer	50	spectra and angular distributions of the α-particles	78069

Z = 67 H O L M I U M A = I65

I	2	3	4	5	6	7
^{165}Ho	(γ,n)	≤ 22	BF_3; scintillator	4π	cross sections for the [(γ,n) + 2(γ,2n)] , (γ,2n), [(γ,n) + (γ,2n)] reactions; integrated cross sections and moments; parameters of deformation; quadrupole moment	76068
^{165}Ho	(e,e'p)	I5 - 23	magnetic spectrometer	I25.3	differential cross section; displacement energies and deformation parameters of isobaric analogue states; radiative widths	76069
^{165}Ho	(γ,n)	≤ 2I	activity	-	total photoabsorption cross section; parameters of deformation; quadrupole moment	76070
^{165}Ho	(e,α)	E_e = I00	positive-ion spectrometer	30 - I50	spectra of the α-particles; angular distributions	77068
^{165}Ho	(γ,γ')	-	Ge(Li)	90 - I40	spectra and angular distributions of the photons; elastic and Raman inelastic scattering differential cross sections	77080

continuation

I	2	3	4	5	6	7
^{165}Ho	$(\underline{\gamma},\gamma)$; $(\underline{\gamma},\gamma')$	$\leq$ II.4	-	-	analysis of the previously published data	79025
^{165}Ho	(γ,tot)	7 - 20	scintillator	0	total photoabsorption cross sections; electromagnetic cross sections	80089

Z = 68 E R B I U M A = $\frac{166}{168}$

1	2	3	4	5	6	7
^{166}Er	(e,e')	E_e = 123 - 202	magnetic spectrometer	90	spectra of the electrons	76026
^{166}Er	(e,e')	E_e = 35 - 110	magnetic spectrometer	92.5-145.0	spectra of the electrons; form factors; cross sections; transition charge parameters	76067
^{166}Er	(γ,n)	≤ 22	BF_3; scintillator	4π	cross sections for the [(γ,n) + 2(γ,2n)], (γ,2n), [(γ,n) + (γ,2n)] reactions; integrated cross sections and moments; parameters of deformation; quadrupole moment	76068
^{166}Er	(e,α)	E_e = 100	positive-ion spectrometer	50	spectra and angular distributions of the α-particles	78069
^{168}Er	(γ,tot)	8 - 30	-	-	total photoabsorption cross section; $\Delta\Gamma = \Gamma - (E_2 - E_1)$ values for deformed nuclei	78107 E
^{168}Er	(γ,tot)	7 - 20	scintillator	0	total photoabsorption cross sections; electromagnetic cross sections	80089

Z = 69 T H U L I U M A = $^{169}_{170}$

I	2	3	4	5	6	7
^{169}Tm	(e,e'p)	I5 - 23	magnetic spectrometer	I25.3	differential cross section; displacement energies and deformation parameters of isobaric analogue states; radiative widths	76069
^{169}Tm	(e,α)	E_e = I00	positive-ion spectrometer	30 - I50	spectra of the α-particles; angular distributions	77068
^{170}Tm	(n,γ)	E_n = 0.5 - 3.0	NaJ	-	spectra of the photons; strength functions	79082

Z = 70 YTTERBIUM $A = {}^{I74}_{I76}$

I	2	3	4	5	6	7
^{I74}Yb	(γ,tot)	8 - 30	-	-	total photoabsorption cross section; $\Delta\Gamma = \Gamma - (E_2 - E_I)$ values for deformed nuclei	78I07 E
^{I74}Yb	(γ,tot)	7 - 20	scintillator	0	total photoabsorption cross sections; electromagnetic cross sections	80089
^{I76}Yb	(e,e')	E_e= 35 - II0	magnetic spectrometer	92.5-I45.0	spectra of the electrons; form factors; cross sections; transition charge parameters	76067
^{I76}Yb	(p,γ)	E_p = 6 - 24	NaJ(Tl)	90	cross section	80090

Z = 71 L U T E T I U M A = 175

1	2	3	4	5	6	7
^{175}Lu	(e,e'p)	15 - 23	magnetic spectrometer	125.3	differential cross section; displacement energies and deformation parameters of isobaric analogue states; radiative widths	76069
^{175}Lu	($\underline{\gamma}$,γ')	8.53 - 11.39	Ge(Li)	125.3	elastic and Raman inelastic scattering differential cross sections; parameters of the giant dipole resonances	77081

Z = 72 H A F N I U M A = $^{176}_{178}_{180}$

1	2	3	4	5	6	7
^{176}Hf	(γ,n)	8 - 22	BF_3	4π	total cross sections for the (γ,n + γ,np + γ,2n) reactions; integrated cross sections; multiplicities of the neutrons; average energies and parameters of the deformation	77082
^{178}Hf	(γ,n)	≤ 22	BF_3; scintillator	4π	cross sections for the [(γ,n) + 2(γ,2n)] , (γ,2n), [(γ,n) + (γ,2n)] reactions; integrated cross sections; parameters of deformation; quadrupole moments	76068
^{178}Hf	(γ,n)	≤ 21	activity	-	total photoabsorption cross section; parameters of deformation; quadrupole moment	76070
^{178}Hf	(γ,tot)	7 - 20	scintillator	0	total photoabsorption cross sections; electromagnetic cross sections	80089
^{180}Hf	(γ,n)	≤ 21	activity		total photoabsorption cross section; parameters of deformation; quadrupole moment	76070

continuation

1	2	3	4	5	6	7
^{180}Hf	(γ,n)	8 - 22	BF_3	4π	total cross sections for the $(\gamma,n + \gamma, np + \gamma,2n)$ reactions; integrated cross sections; multiplicities of the neutrons; average energies and parameters of the deformation	77082
^{180}Hf	(γ,tot)	7 - 20	scintillator	0	total photoabsorption cross sections; electromagnetic cross sections	80089

Z = 73 T A N T A L U M A = I8I

I	2	3	4	5	6	7
$^{I8I}_{Ta}$	(γ,n)	≤ 55	activity	-	isomeric cross section ratios from the (γ,3n) reaction; spin cut-off parameters	76062
$^{I8I}_{Ta}$	(e,e'p)	I5 - 23	magnetic spectrometer	I25.3	differential cross section; displacement energies and deformation parameters of isobaric analogue states; radiative widths	76089
$^{I8I}_{Ta}$	(γ,n)	≤ 2I	activity	-	total photoabsorption cross section; parameters of deformation; quadrupole moment	76070
$^{I8I}_{Ta}$	(e,e'p)	I6 - 28	magnetic spectrometer	90.0, I25.3	spectra of the protons; cross sections for the (e,e'p) and (γ,p) reactions; integrated cross sections and moments; proton yield isochromats	7507I
$^{I8I}_{Ta}$	(e,α)	E_e = I00	positive-ion spectrometer	50	spectra of the α-particles	77068
$^{I8I}_{Ta}$	(γ,γ')	8.53 - II.39	Ge(Li)	I40	elastic and Raman inelastic scattering differential cross sections; parameters of the giant dipole resonance	7708I

continuation

I	2	3	4	5	6	7
^{181}Ta	(e,e')	E_e = 79.1 - 118.3	magnetic spectrometer	37.9 - 149.0	spectra of the electrons; differential cross sections; energies, spins, parities and widths of the levels; reduced probabilities and multipolarities of the transitions	77083
^{181}Ta	(e,e')	≤ 40	magnetic spectrometer	25 - 35	spectra of the electrons; energies, spins, parities and widths of the levels; reduced probabilities and multipolarities of the transitions	77084
^{181}Ta	(e,α)	E_e = 100	positive-ion spectrometer	50	spectra and angular distributions of the α-particles	78069
^{181}Ta	($\underline{\gamma}$,γ)	6.84 - 11.39	Ge(Li)	1.21 - 1.50	differential cross sections	78086
^{181}Ta	($\underline{\gamma}$,γ); ($\underline{\gamma}$,γ')	≤ 11.4	-	-	analysis of the previously published data	79025
^{181}Ta	($\underline{\gamma}$,n)	6.742 - 9.403	ionization chamber	-	Q-value	79081
^{181}Ta	(γ,tot)	3 - 30	time-of-flight	90	total photoabsorption cross section; cross section for quadrupole giant resonance; cross section for electron pair production	80053
^{181}Ta	(γ,tot)	7 - 20	scintillator	0	total photoabsorption cross sections; electromagnetic cross sections	80089

continuation

I	2	3	4	5	6	7
^{181}Ta	$(\underline{\gamma},\gamma)$	4.291, 4.767	NaJ; Ge(Li)	120	spectra of the photons; differential cross sections	80091
^{181}Ta	(e,e')	E_e = 400	energy-loss spectrometer	180	transverse form factors	80092
Ta	$(\underline{\gamma},\gamma)$	2.5-3.5	-	90	differential cross section	80087

Z = 74 T U N G S T E N A = 182 184 186

1	2	3	4	5	6	7
^{182}W	(γ,n)	≤ 21	activity	-	total photoabsorption cross section; parameters of deformation; quadrupole moment	76070
^{182}W	(γ,n)	8 - 22	BF_3	4π	photoabsorption cross section; neutron multiplicity	78108 E
^{182}W	(γ,tot)	7 - 20	scintillator	0	total photoabsorption cross sections; electromagnetic cross sections	80089
^{182}W	(e,f)	E_e = 35 - 55	mica foils	-	cross section	80093
^{184}W	(γ,tot)	8 - 30	-	-	total photoabsorption cross section; $\Delta\Gamma = \Gamma - (E_2 - E_1)$ values for deformed nuclei	78107 E
^{184}W	(γ,n)	8 - 22	BF_3	4π	photoabsorption cross section ; neutron multiplicity	78108 E
^{184}W	(γ,tot)	7 - 20	scintillator	0	total photoabsorption cross sections; electromagnetic cross sections	80089

continuation

1	2	3	4	5	6	7
^{184}W	(e,f)	E_e = 35 - 55	mica foils	-	cross section	80093
^{186}W	(γ,tot)	8 - 30	-	-	total photoabsorption cross section; $\Delta\Gamma = \Gamma - (E_2 - E_I)$ values for deformed nuclei	78I07 E
^{186}W	(γ,n)	8 - 22	BF_3	4π	photoabsorption cross section; neutron multiplicity	78I08 E
^{186}W	(γ,tot)	7 - 20	scintillator	0	total photoabsorption cross sections; electromagnetic cross sections	80089
^{186}W	(e,f)	E_e = 35 - 55	mica foils	-	cross section	80093

Z = 76 O S M I U M A = I86, I87, I88, I89, I90, I92

1	2	3	4	5	6	7
^{186}Os	(γ,n)	7 - 30	BF_3	4π	total cross sections for the ((γ,n) + (γ,pn)), (γ,2n), (γ,3n) and (γ,n_{tot}) reactions; integrated cross sections and moments; parameters of the giant dipole and quadrupole resonances; nuclear shape parameters	79086
^{187}Os	(n,γ)	E_n = 0.0026 - 0.8000	activity	-	cross sections; strength functions	80094
^{188}Os	(γ,n)	7 - 30	BF_3	4π	total cross sections for the ((γ,n) + (γ,pn)), (γ,2n), (γ,3n) and (γ,n_{tot}) reactions; integrated cross sections and moments; parameters of the giant dipole and quadrupole resonances; nuclear shape parameters	79086
^{188}Os	(n,γ)	E_n = 0.0026 - 0.8000	activity	-	cross sections; strength functions	80094

continuation

I	2	3	4	5	6	7
^{189}Os	(γ,n)	7 - 30	BF_3	4 Т	total cross sections for the $((\gamma,n) + (\gamma,pn))$, $(\gamma,2n)$, $(\gamma,3n)$ and (γ,n_{tot}) reactions; integrated cross sections and moments; parameters of the giant dipole and quadrupole resonances; nuclear shape parameters	79086
^{189}Os	(n,γ)	E_n = 0.0026 - - 0.8000	activity	-	cross sections; strength functions	80094
^{190}Os; ^{192}Os	(γ,n)	7 - 30	BF_3	4 Т	total cross sections for the $((\gamma,n) + (\gamma,pn))$, $(\gamma,2n)$, $(\gamma,3n)$ and (γ,n_{tot}) reactions; integrated cross sections and moments; parameters of the giant dipole and quadrupole resonances; nuclear shape parameters	79086
Os	(γ,xn)	6 - 28	BF_3	4 Т	total cross sections	77085

Z = 77 I R I D I U M $A = \frac{191}{193}$

1	2	3	4	5	6	7
^{191}Ir	(γ,xn)	7 - 20	BF_3	-	parameters of the quadrupole deformation	77086
^{191}Ir	(γ,n)	8 - 21	BF_3	4π	total and integral cross sections for the reactions (γ,n + γ,np + γ,2n) and (γ,2n); neutron multiplicities; quadrupole deformation parameters	78087 E
^{193}Ir	(γ,xn)	7 - 20	BF_3	-	parameters of the quadrupole deformation	77086
^{193}Ir	(γ,n)	8 - 21	BF_3	4π	total and integral cross sections for the reactions (γ,n + γ,np + γ,2n) and (γ,2n); neutron multiplicities; quadrupole deformation parameters	78087 E

Z = 78 P L A T I N U M A = $^{I94}_{I95}$ $^{I96}_{I98}$

I	2	3	4	5	6	7
^{I94}Pt	(γ,xn)	7 - 20	BF_3	-	parameters of the quadrupole deformation	77086
^{I94}Pt	(γ,n)	8 - 2I	BF_3	$4\overline{\pi}$	total and integral cross sections for the reactions (γ,n + γ,np + γ,2n) and (γ,2n); neutron multiplicities; quadrupole deformation parameters	78087 E
^{I95}Pt	(γ,xn)	7 - 20	BF_3	-	parameters of the quadrupole deformation	77086
^{I95}Pt	(γ,n)	8 - 2I	BF_3	$4\overline{\pi}$	total and integral cross sections for the reactions (γ,n + γ,np + γ,2n) and (γ,2n); neutron multiplicities; quadrupole deformation parameters	78087 E
^{I96}Pt	(γ,xn)	7 - 20	BF_3	-	parameters of the quadrupole deformation	77086
^{I96}Pt	(γ,n)	8 - 2I	BF_3	$4\overline{\pi}$	total and integral cross sections for the reactions (γ,n + γ,np + γ,2n) and (γ,2n); neutron multiplicities; quadrupole deformation parameters	78087 E

continuation

I	2	3	4	5	6	7
^{198}Pt	(γ,xn)	7 - 20	BF_3	-	parameters of the quadrupole deformation	77086
^{198}Pt	(γ,n)	8 - 2I	BF_3	4π	total and integral cross section for the reactions $(\gamma,n + \gamma,np + \gamma,2n)$ and $(\gamma,2n)$; neutron multiplicities; quadrupole deformation parameters	78087 E

Z = 79 G O L D A = $^{197}_{198}$

I	2	3	4	5	6	7
^{197}Au	(γ,n)	$\leq$ 21	activity	-	total photoabsorption cross section	76070
^{197}Au	(γ,n)	$\leq$ 30	activity	4π	integrated cross section; effective energy range; effective cross section; gross structure of the bremsstrahlung spectra	77018
^{197}Au	(e,α)	E_e = 100	positive-ion spectrometer	50	spectrum of the α-particles	78069
^{197}Au	(γ,n)	6.742 - 9.403	ionization chamber	-	Q-value	79081
^{197}Au	(e,n)	$\leq$ 147	activity	-	total cross sections for the ^{197}Au(e,xn)$^{185-196}$Au reactions	79087
^{197}Au	(γ,tot)	7 - 20	scintillator	0	total photoabsorption cross section; electromagnetic cross section	80089
^{197}Au	(n,γ)	E_n = 0.597 - 1.400	Ge(Li); H-detector	0	cross section	80095

I	2	3	4	5	6	7
^{198}Au	(n,γ)	E_n = I.68 - 2.44	liquid scintillator	4π	total cross section	78088
^{198}Au	(n,γ)	E_n = 0.5 - 3.0	NaJ	-	spectra of the photons; strength functions	79082

Z = 80 M E R C U R Y A = $^{198}_{199}$ 204

1	2	3	4	5	6	7
^{198}Hg; ^{199}Hg	(γ,n)	30 - 68	activity	4π	yield curve	78019
^{199m}Hg	(d,γ)	E_d = 5 - 16	Ge(Li)	-	total cross section	79084
^{204}Hg	(γ,n)	30 - 68	activity	4π	yield curve	78019

Z = 81 T H A L L I U M A ≈ 203 205

1	2	3	4	5	6	7
^{203}Tl	(γ,n)	30 - 68	activity	4π	yield curves for the (γ,n), (γ,2n), (γ,3n) reactions	78019
^{205}Tl	(γ,γ)	≤ 7.5	NaJ(Tl)	90	yield; spectra of the photons; cross section; strength functions	76072
^{205}Tl	(γ,n)	6.742 - 9.403	ionization chamber	-	Q-value	79081
Tl	(γ,γ)	4.5 - 7.5	NaJ	135	total cross section; transition strengths	79088

Z = 82 L E A D A = 204, 206, 207, 208

1	2	3	4	5	6	7
^{204}Pb	(e,f)	E_e = 38 - 50	mica detectors	4π	cross section; fission barrier	76073
^{204}Pb	(γ,n)	30 - 68	activity	4π	yield curves for the (γ,n), (γ,2n), (γ,2n) reactions	78019
^{206}Pb	(e,f)	E_e = 38 - 50	mica detectors	4π	cross section; fission barrier	76073
^{206}Pb	($\underline{\gamma}$,n)	5.837 - II.387	ionization chamber	90	spectrum of the neutrons; Q-value; neutron reduced widths	76074
^{206}Pb	-	-	-	-	systematics of the peak positions of the giant dipole resonance; analysis of the isospin effects	77075
^{206}Pb	($\underline{\gamma}$,n)	6.742 - 9.403	ionization chamber	-	spectrum of the neutrons; Q-value	79081
^{206}Pb	(e,e'f)	30 - 44	polycarbonate films	-	yield and angular distributions of the fission fragments; parameters of the level density; energies of the fission barriers	77087

I	2	3	4	5	6	7
^{206}Pb	(γ,γ)	4.5 - 7.5	NaJ	I35	total cross section; transition strengths	79088
^{206}Pb	(γ,n)	8.5 - II.4	^{3}He-spectrometer	40 - I40	spectrum and angular distribution of the neutrons	79089
^{206}Pb	(γ,γ)	4.29I, 4.767	NaJ Ge(Li)	I20	spectra of the photons; differential cross sections	8009I
^{206}Pb	(γ,γ)	$\leq$ I0.4	Ge(Li)	90, I27	spectra and angular distribution of the photons; cross sections; level widths; branching ratios; transition strengths	80096
^{207}Pb	(e,f)	E_e = 38 - 50	mica detectors	4 π	cross section; fission barrier	76073
^{207}Pb	(γ,n)	5.837 - II.387	ionization chamber	90	spectrum of the neutrons; Q-value; neutron reduced widths	76074
^{207}Pb	-	-	-	-	systematics of the peak positions of the giant dipole resonance; analysis of the isospin effects	77075
^{207}Pb	(e,e'f)	30 - 44	polycarbonate films	-	yield and angular distributions of the fission fragments; parameters of the level density; energies of the fission barriers	77087

continuation

I	2	3	4	5	6	7
^{207}Pb	(γ,n)	6.742 - 9.403	ionization chamber	-	Q-value	7908I
^{207}Pb	(γ,γ)	4.29I, 4.767	NaJ; Ge(Li)	I20	spectra of the photons; differential cross sections	8009I
^{207}Pb	(n,γ)	E_n = 0.5 - II.0	NaJ(Tl)	90	cross section for the (n,γ_0), $(n,\gamma_{f_{5/2}+p_{3/2}})$ and $(n,\gamma_{g_{9/2}})$ reactions	80065
^{207}Pb	(γ,γ)	$\leq$ I0.4	Ge(Li)	90, I27	spectra and angular distributions of the photons; cross sections; level widths; branching ratios; transition strengths	80096
^{208}Pb	(e,f)	E_e = 38 - 50	mica detectors	4π	cross section; fission barrier	76073
^{208}Pb	(γ,n)	5.837 - II.387	ionization chamber	90	spectrum of the neutrons; Q-value; neutron reduced widths	76074
^{208}Pb	(γ,γ)	7.685	NaJ	76 - I06	spectrum and angular distributions of the photons; energy and widths of the state	76075
^{208}Pb	(γ,n)	$\leq$ 9	time-of-flight	90, I35	polarization of the neutrons; spins, parities of the states	76076

continuation

I	2	3	4	5	6	7
^{208}Pb	(e,e')	E_e = I20, I67	-	I00	spectrum of the electrons; form factors; energies and multipolarities of the levels; cross section for the reaction to various final states	76077
^{208}Pb	(e,e'f)	$\leq$ 45	Makrofol foils	35 - 85	yields and angular distributions of the fission fragments; energy of fission barrier; level density parameter	76078
^{208}Pb	-	-	-	-	systematics of the peak positions of the giant dipole resonance; analysis of the isospin effects	77075
^{208}Pb	(e,e'f)	30 - 44	polycarbonate films	-	yield and angular distributions of the fission fragments; parameters of the level density; energies of the fission barriers	77087
^{208}Pb	(e,e')	74 - I00.0	magnetic spectrometer	25 - I55	spectra of the electrons; form factors; energies and widths of the levels; reduced probabilities and multipolarities of the transitions	77088
^{208}Pb	$(\gamma,\vec{n})$	7.55 - 7.73	time-of-flight; neutron spectrometer	90, I35	spectra and polarizations of the neutrons from the (γ,n_o) reaction; multipolarities of the resonances	77089

continuation

I	2	3	4	5	6	7
^{208}Pb	(e,e')	E_e = 50, 65	-	-	new analysis of the previously obtained spectra of the electrons; widths and isopsins of the levels; reduced probabilities and multipolarities of the transitions	77090
^{208}Pb	$(\underline{\gamma},\gamma')$	6.92, 7.I2	Ge(Li); NaJ(Tl)	90	spectra of the photons; widths of the levels	7709I
^{208}Pb	$(\gamma,\vec{n})$	8.I - I0.22	time-of-flight; neutron polarimeter	90	spectra of the neutrons; energies, spins, parities and widths of the levels; reduced probabilities of the MI-transitions	77092
^{208}Pb	$(\gamma,\vec{n})$	7.55 - 8.38	time-of-flight; neutron polarimeter	I35	spectra and polarizations of the neutrons from (γ,n_0) reaction; final asymmetry products	77093
^{208}Pb	(e,e')	E_e = 65	energy-loss spectrometer	I65	spectrum of the electrons	78009
^{208}Pb	(e,e')	E_e = 24.3 - - 63.5	magnetic spectrometer	I65	spectra of the electrons	78044
^{208}Pb	(γ,n)	7.4 - I2.7	-	-	total cross section	78089
^{208}Pb	(e,e')	6.I - 8.8	magnetic spectrometer	93 - I65	spectra and angular distributions of the electrons; spins and parities of the levels; transition strengths	78090

continuation

1	2	3	4	5	6	7
^{208}Pb	(n,γ)	E_n = 0.0 - 0.8	Ge(Li); NaJ(Tl)	-	yields and spectra of the photons; widths of the $2^{\pm}$ resonances	7809I
^{208}Pb	(e,e')	E_e = 50 - 335	energy-loss spectrometer	90, I60	spectra of the electrons; differential cross sections	78092
^{208}Pb	(γ,n)	6.742 - 9.403	ionization chamber	-	Q-value	7908I
^{208}Pb	(γ,n); $(\gamma,\vec{n})$	7.4 - 8.4	time-of-flight; polarimeter	90, I35	spectra of the neutrons from the (γ,n_o) reaction; differential cross sections for the (γ,n_o) and $(\gamma,\vec{n}_o)$ reactions; ground-state radiative widths; polarization of the neutrons; spins, parities and widths of the resonances; probabilities of the MI-transitions	79090
^{208}Pb	(e,e')	I9.3 - 25.I	magnetic spectrometer	I80	spectrum of the electrons	7909I
^{208}Pb	(γ,γ)	4.29I, 4.767	NaJ; Ge(Li)	I20	spectra of the photons; differential cross sections	8009I
^{208}Pb	(e,e')	E_e = 70 - 335	magnetic spectrometer	90, I60	cross sections for various states	80097
^{208}Pb	(γ,γ)	$\leq$ I0.4	Ge(Li)	90, I27	spectra and angular distributions of the photons; cross sections; level widths; branching ratios; transition strengths	80096

continuation

I	2	3	4	5	6	7
Pb	$(\underline{\gamma},\gamma)$	6.84 - II.39	Ge(Li)	I.2I - I.50	differential cross sections	78086
Pb	$(\underline{\gamma},n)$	25 - I06	liquid scintillator	4π	total and integrated cross sections of (γ,Xn) reaction	78093
Pb	$(\underline{\gamma},n)$	7.279 - 9.298	^{3}He-detector	90 - I50	spectrum of the neutrons; angular distribution of the 86 keV neutrons; value of the cross section for the reaction $^{207}Pb(\gamma,n)$	78094
Pb	$(\underline{\gamma},\gamma)$; $(\underline{\gamma},\gamma')$	$\leq$ II.4	-	-	analysis of the previously published data	79025
Pb	$(\underline{\gamma},\gamma)$	2.5 - 3.5	-	90	differential cross section	80087
Pb	(γ,n)	$\leq$ 200	activity; NaJ(Tl)	0 - I65	yield and angular distributions of the neutrons	80098 E
Pb	$(\underline{\gamma},\gamma)$	0.344 - I.408	Ge(Li)	3 - 45	angular distributions of the photons; differential cross sections	80099

Z = 83 B I S M U T H A = 209

I	2	3	4	5	6	7
^{209}Bi	(γ,n)	≤ 21	activity	-	total photoabsorption cross section	76070
^{209}Bi	(e,f)	E_e = 38 - 50	mica detectors	4π	cross section	76073
^{209}Bi	(e,e'f)	≤ 45	Makrofol foils	35 - 85	yields and angular distributions of the fission fragments; energy of fission barrier; level density parameter	76078
^{209}Bi	(e,e')	E_e = 180 - 220	-	135 - 155	total cross sections; magnetic cross sections; M7 and M9 form factors	76080
^{209}Bi	-	-	-	-	systematics of the peak positions of the giant dipole resonance; analysis of the isospin effects	77075
^{209}Bi	(γ,γ')	7.28, 7.63	absorption method	-	absorption spectrum; scattering spectrum; energies and widths of the levels	77078
^{209}Bi	(γ,n)	6.742 - 9.403	ionization chamber	-	Q-value	79081

continuation

I	2	3	4	5	6	7
^{209}Bi	($\underline{\gamma}$,γ)	4.5 - 7.5	NaJ	I35	total cross section; transition strengths	79088
^{209}Bi	(e,f)	E_e = II0	Si	-	mass and energy distributions of the fission fragments	79092
^{209}Bi	(γ,tot)	3 - 30	time-of-flight	90	total photoabsorption cross section; cross section for quadrupole giant resonance; cross section for electron pair production	80053
^{209}Bi	(γ,tot)	7 - 20	scintillator	0	total photoabsorption cross section; electromagnetic cross section	80089
^{209}Bi	($\underline{\gamma}$,γ)	$\leq$ I0.4	Ge(Li)	90, I27	spectra and angular distributions of the photons; cross sections; level widths; branching ratios; transition strengths	80096
Bi	($\underline{\gamma}$,γ)	2.5 - 3.5	-	90	differential cross section	80087

Z = 89 A C T I N I U M A = 227

1	2	3	4	5	6	7
^{227}Ac	(γ,f)	7 - I6	mica detectors	-	total cross section; fissionabilities; fission barrier	78095 E

Z = 90 THORIUM A = 232

I	2	3	4	5	6	7
^{232}Th	(e,e')	E_e = 35 - II0	magnetic spectrometer	92.5-I45.0	spectra of the electrons; form factors; cross sections; transition charge paremeters	76067
^{232}Th	(e,e'f)	E_e = 7 - 66	glass detector	45, 90	yields and kinetic energies of the fission fragments	7608I
^{232}Th	(e,e'f)	E_e = I0 - 40	Si; glass detectors; Makrofol foils	90	σ^-/σ^+ cross section ratio for electron and positron induced fission	76082
^{232}Th	(Y,tot)	7 - 25	scintillator	4π	total photosbsorption cross section; integrated cross sections and moments; parameters of deformation; quadrupole moment	76083
^{232}Th	(Y,f)	$\leq$ 38	Ge(Li)	-	mass-yield distribution and yields of the fission fragments	77094
^{232}Th	(e,e'f)	E_e = 20 - I20	-	-	total cross section	77095
^{232}Th	(Y,f)	4.4 - 7.0	mica detectors	-	yields; total cross sections	78096 E

continuation

I	2	3	4	5	6	7
^{232}Th	(γ,f)	4.4 - 7.0	mica detectors	-	yields; total cross sections; fissionabilities	78097
^{232}Th	(γ,f)	3.5 - 7.0	mica detectors	-	yields; total cross sections	78098
^{232}Th	(e,f)	E_e = II0	Si	-	mass and energy distributions of the fission fragments	79092
^{232}Th	(γ,f)	$\leq$ 6.4	mica detectors	4π	angular distributions of the fission fragments; yields;	79093
^{232}Th	(e,f)	E_e = 7 - 65	glass detectors	-25 - +I20	anisotropy $W(90^0)/W(0^0)$ of the fission fragments; total cross section	79094
^{232}Th	(γ,n) (γ,f)	5.0 - I8.3	BF_3	4π	cross sections for the $[(\gamma,n) + (\gamma,2n) + (\gamma,f)]$, (γ,n), $(\gamma,2n)$ and (γ,f) reactions; integrated cross sections and moments; nuclear shape parameters; neutron-to-fission branching ratios; fission probabilities	80I00
^{232}Th	(γ,Xn)	$\leq$ 45	energy-loss detectors (PPAD)	90	yields and half-lives of fission fragments; isomeric to prompt ratio	80I0I

continuation

Z = 92 U R A N I U M A = 233, 234, 235, 236, 237, 238

1	2	3	4	5	6	7
^{233}U	(γ,f)	10 - 24	activity	4π	relative yields of fission fragments	76084
^{233}U	(γ,f)	4.4 - 7.0	mica detectors	-	yields; total cross sections	78096 E
^{233}U	(γ,f)	4.4 - 7.0	mica detectors	-	yields; total cross sections; fissionabilities	78097
^{234}U	(γ,f)	5.2 - 6.4	solid-state detectors	-15 - +20	yield; total cross section; fission barrier parameters	78099
^{234}U	(γ,f)	$\leq$ 5.7	glass detectors; mica foils	7.5 - 97.5	angular distributions of the fission fragments	80102 E
^{235}U	(γ,tot)	7 - 25	scintillator	4π	total photoabsorption cross section; integrated cross sections and moments; parameters of deformation; quadrupole moment	76083
^{235}U	(e,f)	E_e = 30 - 115	solid-state detectors	90	mass and total kinetic energy distributions of the fission fragments	76085

continuation

I	2	3	4	5	6	7
^{235}U	(γ,f)	≤ 25	heavy ion detectors	90	mass and kinetic energy distributions of the fission fragments; average total kinetic energies	76086
^{235}U	(γ,f)	≤ 25	activity	-	cummulative chain yields; fractional independent chain yields; independent isomeric yield ratios; mass and charge distributions of the fission fragments; most probable charges	76087
^{235}U	(γ,f)	≤ 20	mass spectrometer	-	relative yields of Xe isotopes	76088
^{235}U	(γ,f)	4.4 - 7.0	mica detectors	-	yields; total cross sections	78096 E
^{235}U	(γ,f)	4.4 - 7.0	mica detectors	-	yields; total cross sections; fissionabilities	78097
^{235}U	(γ,f)	7.0 ÷ I3.5	glass detectors	0 - 90	angular distributions of the fission fragments	78I00 E
^{235}U	(γ,f)	I00 ÷ I200	glass detectors	4π	yield ratios; relative fissionabilities	78I0I E
^{235}U	(e,f)	E_e = II0	Si	-	mass and energy distributions of the fission fragments	79092

continuation

I	2	3	4	5	6	7
^{235}U	(γ,n)	5.0 - I8.3	BF_3	4π	cross sections for the $[(\gamma,n) + (\gamma,2n) + (\gamma,f)]$, (γ,n), $(\gamma,2n)$ and (γ,f) reactions; integrated cross sections and moments; nuclear shape parameters; neutron-to-fission branching ratios; fission probabilities	80I00
^{235}U	(γ,xn)	≤ 45	energy loss detectors (PPAD)	90	yields and half-lives of the fission isomers; isomeric to prompt ratio	80I0I
^{235}U	(γ,f)	≤ 70	activity	-	fragment γ-spectra; mass distribution of the fragments; product yields; most probable charges; isomeric ratios; average initial fragment spins	80I03
^{235}U	(γ,f)	≤ 20	$E \Delta E$	-	spectrum of the α-particles	80I04
^{236}U	(γ,f)	≤ 6.4	solid state detectors	-I5 - +I05	yields and angular distributions of the fission fragments; fission barrier	76089
^{236}U	(γ,f)	3 - 7	mica detectors	-	angular distributions of the fission fragments	77I00
^{236}U	(γ,f)	4.4 - 7.0	mica detectors	-	yields; total cross sections	78096 E

continuation

I	2	3	4	5	6	7
^{236}U	(γ,f)	4.4 - 7.0	**mica** detectors	-	yields; total cross sections; fissionabilities	78097
^{236}U	(γ,f)	3.5 - 7.0	**mica** detectors	-	yields; total cross sections	78098
^{236}U	(γ,f)	5.2 - 6.4	solid-state detectors	-I5 - +20	yields; total cross sections; fission barrier parameters	78099
^{236}U	(γ,f)	≤7.25	mica detectors	4π	angular distributions of the fission fragments; yields	79093
^{236}U	(γ,f)	5.0 - I8.3	BF_3	4π	cross sections for the (γ,f) reaction; integrated cross sections and moments; nuclear shape parameters; neutron-fission branching ratios; fission probabilities	80I00
^{236}U	(e,f)	E_e= 5.5 - 33.0	mica foils	I0 - I00	electro- and photofission yields; cross sections; angular distributions of fission fragments; partial cross sections for E2 and MI photofission; parameters of the giant quadrupole resonance	80I05
^{237}U	(γ,f)	4.4 - 7.0	**mica** detectors	-		78097 E

continuation

I	2	3	4	5	6	7
^{238}U	(e,e')	E_e = 35 - II0	magnetic spectrometer	92.5-I45.0	spectra of the electrons; form factors; cross sections; transition charge parameters	76067
^{238}U	(e,e'f)	E_e = I0 - 40	Si; glass detectors; Makrofol foils	90	σ^-/σ^+ cross section ratio for electron and positron induced fission	76082
^{238}U	(γ,tot)	7 - 25	scintillator	4π	total photoabsorption cross section; integrated cross sections and moments; parameters of deformation; quadrupole moments	76083
^{238}U	(e,f)	E_e = 30 - II5	solid state detectors	90	mass and total kinetic energy distributions of the fission fragments	76085
^{238}U	(γ,f)	$\leq$ 25	heavy ion detectors	90	mass and kinetic energy distributions of the fission fragments; average total kinetic energies	76086
^{238}U	(γ,f)	$\leq$ 25	activity	-	cummulative chain yields; fractional independent chain yields; independent isomeric yield ratios; mass and charge distributions of the fission fragments; most probable charges	76087
^{238}U	(e,f) (γ,f)	6 - 60	mica foils	-	yields; cross sections; EI contributions	76090

continuation

I	2	3	4	5	6	7
^{238}U	(e,e'α)	E_e = 9 - 24	activity	-	cross section	76091
^{238}U	(γ,f)	≤ 5.2	-	0 - 90	yield and angular distributions of the fission fragments	76092
^{238}U	(γ,f)	I4.5 - I300.0	mica foils; glass detectors; spark counter	-	cross section; fissionabilities	76093
^{238}U	(e,e'f)	E_e = 20 - I20	-	-	total cross sections	77095
^{238}U	(e,e'n)	6 - 25	activity	4π	total cross section; E1 and E2 absorption contributions	77096
^{238}U	(γ,f)	3 - 7	mica detectors	-	angular distributions of the fission fragments	77100
^{238}U	(γ,γ)	6.84- II.39	Ge(Li)	I.2I - I.50	spectra of the photons; differential cross sections	78086
^{238}U	(γ,f)	4.4 - 7.0	mica detectors	-	yields; total cross sections	78096 E
^{238}U	(γ,f)	4.4 - 7.0	mica detectors	-	yields; total cross sections; fissionabilities	78097
^{238}U	(γ,f)	3.5 - 7.0	mica detectors	-	yields; total cross sections	78098

continuation

I	2	3	4	5	6	7
^{238}U	(γ,f)	5.2 - 6.4	solid state detectors	-I5 - +I20	yields; total cross sections; fission barrier parameters	78099
^{238}U	(γ,f)	$\leq$ 240	glass detectors	4π	yield ratios relative fissionabilities	78I0I E
^{238}U	(γ,f)	5.2 - 6.4	solid state detectors	-30 - +I20	yields; total cross sections; angular distributions of the fission fragments; fission barrier parameters	78I02
^{238}U	$(\underline{\gamma},\gamma)$	7.9, 9.0	Ge(Li)	25.0-I40.0	spectra of the photons; differential cross sections	78I03
^{238}U	(e,α); (e,p)	E_e = 40	magnetic spectrometer	48	spectra of the protons and α-particles; value of the ternary fission cross section	78I04
^{238}U	$(e,e'f)$	E_e = 5.5 - 28.3	mica foils	I3 - 90	yields and angular distributions of the fission fragments; total cross sections	78I05
^{238}U	$(e,e'\alpha)$	E_e = I3.I	activity	-	spectra of the photons of the γ-activity; upper limit for the cross section	78I06
^{238}U	$(\underline{\gamma},\gamma)$ $(\underline{\gamma},\gamma')$	$\leq$ II.4	-	-	analysis of the previously published data	79025

continuation

I	2	3	4	5	6	7
^{238}U	(e,f)	E_e = II0	Si	-	mass and energy distributions of the fission fragments	79092
^{238}U	(γ,f)	≤ 7.25	mica detectors	4π	angular distributions of the fission fragments; yields	79093
^{238}U	(e,f)	E_e = 7 - 65	glass detectors	-25 - +I20	anisotropy $W(90^o)/W(0^o)$ of the fission fragments; total cross section	79094
^{238}U	(γ,f)	≤ 70	activity	-	mass distributions and the most probable charges of the fission fragments; yields; average initial fragment spins; isomeric ratios	79095
^{238}U	(γ,∝)	≤ I5.5	activity	-	spectra of the de-excitation photons; decay curves; upper limit for the total cross section	79096
^{238}U	(e,n)	E_e = 20 - I20	activity	-	spectrum of the de-excitation photons; total cross section; ratio of the probabilities for the neutron emission and fission for the EI- and E2-components	79097
^{238}U	(γ,f)	≤ 65	proportional counter	-	time distribution of the fission fragments; half-life of the fission isomer ^{236m}U; ratio of the isomer to the prompt fission yields	79098

continuation

I	2	3	4	5	6	7
^{238}U	$(\underline{\gamma},\gamma)$	4.291 4.767	NaJ; Ge(Li)	120	spectra of the photons; differential cross sections	80091
^{238}U	(n,γ)	E_n = 0.597 - - 1.400	Ge(Li); H-detector	0	cross section	80095
^{238}U	(γ,n) $(\underline{\gamma},f)$	5.0 - 18.3	BF_3	4π	cross sections for the $\left[(\gamma,n) + (\gamma,2n) + (\gamma,f)\right]$, (γ,n), $(\gamma,2n)$ and (γ,f) reactions; integrated cross sections and moments; nuclear shape parameters; neutron-to-fission branching ratio; fission probabilities	80100
^{238}U	(γ,xn) $(\gamma,2n)$	≤ 45	energy loss detectors (PPAD)	90	yields and half-lives of fission fragments; isomeric to prompt ratio	80101
^{238}U	(e,e')	5 - 40	magnetic spectrometer	45 - 90	spectra of the electrons; cross sections; multipolarities of the transitions; reduced matrix elements; radiative widths; sum rule exhaustion	80106
^{238}U	$(e,e'f)$	5.5 - 9.0	mica foils	13 - 97	angular distribution of fission fragments; parameters of low-lying fissioning levels	80107

continuation

I	2	3	4	5	6	7
^{238}U	(e,f)	E_e = I0 - 500	-	-	reanalysis of the previous data for electrofission cross section; strength function and cross section for fission-decay component of GQR; fission-decay probability for GQR; first-chance and second-chance fission components	80I08
U	($\underline{\gamma}$,Y)	2.5 - 3.5	-	90	differential cross section	80087
U	($\underline{\gamma}$,Y)	0.I - I.5	Ge(Li)	I5 - I50	spectra of the photons; differential cross sections; Rayleigh and Delbrück scattering amplitudes	80I09

Z = 93 N E P T U N I U M A = 237

I	2	3	4	5	6	7
^{237}Np	(γ,f)	$\leq$ 20	mass spectrometer	-	relative yields of Xe isotopes	76088
^{237}Np	(γ,γ')	8.53 - II.39	Ge(Li)	90 - I40	spectra and angular distributions of the photons; elastic and Raman inelastic differential cross sections	77080
^{237}Np	(e,e'f)	E_e = 20 - I20	-	-	total cross section	77095
^{237}Np	(γ,f)	4.4 - 7.0	mica detectors	-	yields; total cross sections	78096 E
^{237}Np	(γ,f)	4.4 - 7.0	mica detectors	-	yields; total cross sections; fissionabilities	78097
^{237}Np	(γ,f)	3.5 - 7.0	mica detectors	-	yields; total cross sections	78098
^{237}Np	(γ,f)	I00 - I200	glass detectors	4π	yield ratios; relative fissionabilities	78I0I E

continuation

1	2	3	4	5	6	7
^{237}Np	$(\underline{\gamma},\gamma)$; $(\underline{\gamma},\gamma')$	$\leq$ II.4	-	-	analysis of the previously published data	79025
^{237}Np	(e,f)	E_e = II0	Si	-	mass and anergy distributions of the fission fragments	79092

Z = 94 PLUTONIUM A = 239, 240, 241, 242

I	2	3	4	5	6	7
^{239}Pu	(γ,tot)	7 - 25	scintillator	4π	total photoabsorption cross section; integrated cross sections and moments; parameters of deformation; quadrupole moment	76083
^{239}Pu	(γ,f)	I0 - 24	activity	4π	relative yields of fission fragments	76084
^{239}Pu	(γ,f)	4.4 - 7.0	mica detectors	-	yields; total cross sections	78096 E
^{239}Pu	(γ,f)	4.4 - 7.0	mica detectors	-	yields; total cross sections; fissionabilities	78097
^{239}Pu	(γ,f)	I00 - I200	glass detectors	4π	yield ratios; relative fissionabilities	78I0I E
^{239}Pu	(γ,n)	$\leq$ 45	Si	-	time distribution of the fission fragments; delayed/prompt yield ratios for $^{237}Pu^{m1,m2}$ isomers; isomer ratios; spins of the isomers	79099

continuation

1	2	3	4	5	6	7
^{240}Pu	(γ,n)	≤ 45	energy loss detectors (PPAD)	90	yields and half-lives of fission fragments; isomeric to prompt ratios	80I0I
^{24I}Pu	(γ,f)	4.4 - 7.0	mica detector	-	yields; total cross sections	78096 E
^{24I}Pu	(γ,f)	4.4 - 7.0	mica detectors	-	yields; total cross sections; fissionabilities	78097
^{242}Pu	(γ,n)	≤ 45	energy loss detectors (PPAD)	90	yields and half-lives of fission fragments; isomeric to prompt ratios	80I0I

Z = 95 A M E R I C I U M A = $^{241}_{243}$

I	2	3	4	5	6	7
^{241}Am	(γ,f)	14.5 - 1300.0	mica foils; glass detectors; spark counter	-	cross section; ratio of the yields of fission fragments $Y(^{241}Am)/Y(^{243}Am)$ and $Y(^{241}Am)/Y(^{238}U)$; fissionabilities	76093
^{241}Am	(γ,f)	4.4 - 7.0	mica detectors	-	yields; total cross sections	78096 E
^{241}Am	(γ,f)	4.4 - 7.0	mica detectors	-	yields; total cross sections; fissionabilities	78097
^{241}Am	(γ,f)		glass detectors	4π	yield ratios; relative fissionabilities	78101 E
^{241}Am	(γ,n)	7 - 26	multiwire spark chambers;	-	yields; total cross sections of the photofission; fissionability	79100 E
^{241}Am	(γ,n)	10 - 80	multiwire spark chambers	-	delayed/prompt yield ratios; yields of the $^{240mf}Am$ and $^{242mf}Am$ isomers; total cross sections for the $^{241}Am(\gamma,n)^{240mf}Am$ and $^{243}Am(\gamma,n)^{241mf}Am$ reactions; average isomer coefficients	79101 E

continuation

I	2	3	4	5	6	7
^{243}Am	(γ,f)	I4.5 - I300.0	mica foils; glass detectors; spark counter	-	cross section; ratio of the yields of fission fragmnets $Y(^{24I}Am)/Y(^{243}Am)$; fissionabilities	76093
^{243}Am	(γ,f)		glass detectors	-	yield ratios; relative fissionsbilities	78I0I E
^{243}Am	(γ,n)	7 - 26	multiwire spark chambers	-	yields; total cross sections of the photofission; fissionability	79I00 E
^{243}Am	(γ,f)	I0 - 80	multiwire spark chambers	-	delayed/prompt yield ratios; yields of the $^{240mf}Am$ and $^{242mf}Am$ isomers; total cross sections for the $^{24I}Am(\gamma,n)^{240mf}Am$ and $^{243}Am(\gamma,n)^{24Imf}Am$ reactions; average isomer coefficients	79I0I E

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