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EVALUATION OF NEUTRON CROSS-SECTIONS FOR FISSION PRODUCT NUCLEI IN THE ENERGY RANGE UP TO 50 MeV

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ABSTRACT

In this paper, the neutron cross-sections for unstable fission product nuclei for neutron energies up to 50 MeV are evaluated. These long-lived fisson products have high yields and therefore constitute a complex problem in the fuel reprocessing cycle. The evaluation is based on the calculations of reaction cross-sections applying the statistical nuclear reaction model taking into account the pre-equilibrium mechanism and using the ALICE-87 code. The comparison, wherever possible, with the available experimental data proved that these results can serve as initial data for different kinds of calculations on environmental aspects of the utilization of radioactive waste and its transmutation.

Introduction

It is likely that one of the stages in the establishment of an ecologically optimal nuclear fuel cycle will comprise the development of methods for the nuclear burnup or transmutation of high-level radioactive waste. The two types of waste causing greatest concern are transactinides and nuclear fragments with a high yield and a half-life of several decades. The use of the hard neutron spectrum from fast reactors is regarded as the most likely means of transmutation. However, another possibility is to use the beams of charged particles, high-energy neutrons or gamma quanta obtained in high-precision proton or electron accelerators. In order to establish the concept of burnup in accelerators, evaluated nuclear data need to be obtained for the interaction between suitable medium-energy particles

and radioactive nuclei for which there are no experimental data. The absence of data must be offset by the elaboration of sufficiently reliable methods for calculating the relevant cross-sections and spectra, and by extensive study of the potential of the existing methods that have been tested on stable isotopes.

One of the first steps in this process is to perform calculations which apply the models used in obtaining evaluated neutron data for the energy range up to 20 MeV to the far wider energy range involved in using accelerators for transmutation and burnup. The results of these calculations are presented in this paper. We have evaluated the neutron cross-section energy dependences for the (*n,xn*) and (*n,xnyp*) reactions involving the most important isotopes from the viewpoint of burnup, namely: ^{90}Sr, ^{137}Cs, ^{93}Zr, ^{94}Nb, ^{96}Zr, ^{99}Tc, ^{107}Pd, ^{108}Ag, ^{121}Sn, ^{126}Sn, ^{129}I, ^{135}Cs, ^{147}Sm, ^{148}Sm, ^{151}Sm, ^{158}Tb and ^{166}Ho. Comparison with the existing experimental data for nuclei of similar mass number shows that the results obtained can be used as a preliminary estimate in tackling the problem of the burnup and transmutation of long-lived fission product nuclei.

Calculation method for neutron cross-sections at medium energies

The calculations were carried out using a statistical approach based on the ALICE-87 code [1], which makes it possible to take account of both equilibrium and pre-equilibrium reaction mechanisms in obtaining the various reaction characteristics (emission cross-sections and spectra). The differential cross-section of a pre-equilibrium process can be recorded in the following form (hybrid model) [2]:

$$\frac{d\sigma}{d\varepsilon} = \sigma_{R'} \sum_{n=n_o} \left[\frac{\chi_v \cdot \rho_{n-1}(U)}{\rho_n(E)} \right] \cdot \left[\frac{\lambda_c(\varepsilon)}{\lambda_c(\varepsilon) + \lambda_+(\varepsilon)} \right] \cdot D_n \,, \qquad (1)$$

where the first multiplier in square brackets represents the ratio of state densities of the

configurations before and after emission from the n-exciton state; $\rho_n(E)$ is the particle-hole state density of the n-exciton configuration; χ_ν is the number of ν-excitons (neutron or proton) which can be emitted with an energy in the range from ε to $\varepsilon + d\varepsilon$; $U = E - B_\nu - \varepsilon$, where B is the binding energy of the ν-particle, and $\lambda + (\varepsilon)$ is the probability of a competing process of two-particle collisions as the configuration becomes more complex. The multiplier D_n takes account of population reduction in the n-exciton state as the emission cascade process develops in the preceding stages. The probability of nucleon-nucleon scattering within the target nucleus can be calculated by using either the value for imaginary part of the optical potentials contained in the code or the experimental data for nucleon-nucleon scattering cross-sections, taking the Pauli principle into account [3]. The value $\lambda_c(\varepsilon)$ represents the probability of nucleon emission into the continuum and is determined using the detailed balance principle

$$\lambda_c(\varepsilon) = (2s + 1) \cdot \Omega \cdot \frac{4\pi\, p^2\, dp}{h^3} \cdot \frac{\sigma v}{\Omega g}\,, \qquad (2)$$

where s is the nucleon spin, Ω is the volume, p is the nucleon momentum, g is single-particle level density, v is the nucleon velocity within the nucleus, and σ is the scattering cross-section.

The code is also designed to calculate the change in the density of nuclear material at the surface of the nucleus, and the finite depth of a potential well (hybrid model, geometry-dependent). The reaction cross-sections and the cross-section for the inverse process are calculated by means of an optical model. In order to perform calculations using this code, the type of reaction, number of final nuclei, number and type of emitted particles and energy of incident particles must be specified. The contribution of the pre-equilibrium

mechanism is determined from the initial number of excitons of the type concerned and by the model selected for the pre-equilibrium processes. All the other parameters can be determined in accordance with the calculation variants included in the code. We used the cross-section for the inverse process and the level densities specified in the code. The binding energies and reaction energies used in the calculations are determined on the basis of the experimental mass values. Where these were not available, they were calculated by means of the Myers-Swiatecki formula [4].

The state density of the particle-hole configurations is calculated in accordance with the Strutinsky-Erikson formula [5].

Once the contribution of pre-equilibrium emission has been determined, the compound nucleus emission is calculated in accordance with the Weisskopf-Ewing theory. As a result, it is possible to obtain the emission spectra and yields of all the reaction products.

Results

The results of the calculations are shown in Figs 1-67 and the numerical data are presented in Tables 1-67. It should be noted that the calculations were performed with a global set of parameters giving the overall picture for a wide range of energies and mass numbers. A more detailed set of parameters can be established through comparison with the existing experimental data. As there are no experimental data specifically for the radioactive fission fragments under consideration, the only alternative is a comparison with the experimental data obtained for nuclei of similar mass number. The calculation methods we have used may also be applied in order to describe charged-particle-induced reactions in the medium energy range which concerns us, and to obtain information on the accuracy and reliability of these methods.

Figure 1 shows typical results of the excitation function calculations for the ^{90}Sr (*n,xn*) reactions with the formation of $^{89, 88, 87, 86}$Sr isotopes for incident neutron energies of up to 50 MeV. The figures next to the curves indicate the mass number of the corresponding isotope. Figure 2 gives the results of the excitation function calculations for the ^{90}Sr (*n,pxn*) reactions with the formation of isotopes with mass numbers from 90 to 85. Also presented here are the experimental data from Ref. [6] for the ^{88}Sr (*n,p*) reaction cross-section in the energy range around 14 MeV. Reasonable agreement can be seen between the experimental and calculation results. Figures 40 and 41 show the results of the excitation function calculations for the ^{129}I (*n,xn*) and ^{129}I (*n,pxn*) reactions. Also presented here are the experimental data for the ^{127}I (*n,2n*) and ^{127}I (*n,p*) reaction cross-sections in the 14-20 MeV energy range [6]. There is clearly very satisfactory agreement between the calculation results and the experimental data for these reactions. A similar comparison can be made in the case of the excitation functions for reactions involving the ^{135}Cs nucleus. Figures 44 and 45 show the results of the excitation function calculations for the (*n,xn*) and (*n,pxn*) reactions involving ^{135}Cs nuclei and the experimental data for ^{133}Cs (*n,2n*) and ^{133}Cs (*n,p*) reactions. The experimental data and theoretical calculations correspond well.

References [7-9] contain an analysis of cross-section calculation methods for light charged-particle-induced reactions involving nuclei of medium atomic weight. Comparison with the extensive experimental material showed that the methods provide a satisfactory description of the experimental data over a wide energy range. We may therefore assume that the cross-section calculation results given here for reactions induced by neutrons with an energy of up to 50 MeV may be used as a preliminary estimate in tackling the problems associated with the burnup and transmutation of long-lived fission products.

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Table 1

Calculated excitation functions for the $^{90}Sr(n,xn)$ Sr* reaction

En	^{90}Sr	^{89}Sr	^{88}Sr	^{87}Sr	^{86}Sr
2.0	2.42E+03				
4.0	2.03E+03				
6.0	1.95E+03				
8.0	1.89E+03				
10.0	6.60E+02	1.10E+03			
12.0	2.88E+02	1.42E+03			
14.0	1.91E+02	1.51E+03			
16.0	1.50E+02	1.32E+03			
18.0	1.25E+02	8.43E+02	3.43E+02		
20.0	1.15E+02	5.15E+02	7.03E+02		
22.0	1.09E+02	3.54E+02	9.18E+02		
24.0	1.14E+02	2.84E+02	9.85E+02		
26.0	1.04E+02	2.31E+02	1.03E+03		
28.0	9.55E+01	1.99E+02	1.02E+03	7.97E+00	
30.0	9.00E+01	1.79E+02	9.47E+02	7.40E+01	
32.0	8.54E+01	1.65E+02	8.08E+02	1.98E+02	
34.0	8.01E+01	1.53E+02	6.62E+02	3.26E+02	
36.0	7.47E+01	1.42E+02	5.38E+02	4.24E+02	
38.0	7.01E+01	1.34E+02	4.31E+02	4.83E+02	1.09E+00
40.0	6.62E+01	1.25E+02	3.64E+02	4.93E+02	1.21E+01
42.0	6.27E+01	1.22E+02	3.25E+02	4.66E+02	3.21E+01
44.0	5.96E+01	1.15E+02	2.88E+02	4.45E+02	5.96E+01
46.0	5.64E+01	1.07E+02	2.55E+02	3.85E+02	1.24E+02
48.0	5.34E+01	1.01E+02	2.33E+02	3.38E+02	1.73E+02
50.0	5.07E+01	9.56E+01	2.16E+02	2.98E+02	2.13E+02

* Excitation functions for reactions involving the interaction of neutrons with the nuclides ^{90}Sr, ^{137}Cs, ^{93}Zr, ^{94}Nb, ^{96}Zr, ^{99}Tc, ^{107}Pd, ^{108}Ag, ^{121}Sn, ^{126}Sn, ^{129}I, ^{147}Sm, ^{148}Sm, ^{151}Sm, ^{158}Tb, and ^{166}Ho, with nucleon emission, calculated by means of the ALICE-87 code.
The first column shows the energy of the incident neutrons in MeV. The excitation functions are shown throughout in mb.

Tables 2-67. Heading is always the same except for type of reaction shown.

Calculated excitation functions for the ... reaction.

Таблица 2

Расчетные функции возбуждения реакции $^{90}Sr(n,pxn)Rb$

En	^{90}Rb	^{89}Rb	^{88}Rb	^{87}Rb	^{86}Rb	^{85}Rb
10.0	1.88E-01					
12.0	2.85E+00					
14.0	1.03E+01	5.53E-04				
16.0	2.24E+01	4.75E+00				
18.0	3.18E+01	1.01E+01				
20.0	3.79E+01	1.83E+01	1.25E-04			
22.0	4.19E+01	3.07E+01	2.82E-02			
24.0	4.33E+01	5.00E+01	2.37E-01			
26.0	4.22E+01	6.86E+01	1.50E+00			
28.0	4.06E+01	8.46E+01	5.83E+00	4.87E-03		
30.0	3.96E+01	9.75E+01	1.43E+01	1.07E-01		
32.0	3.88E+01	1.07E+02	2.65E+01	6.61E-01		
34.0	3.73E+01	1.07E+02	4.48E+01	2.61E+00		
36.0	3.52E+01	1.06E+02	6.14E+01	7.12E+00	2.02E-06	
38.0	3.65E+01	1.03E+02	7.35E+01	1.27E+01	2.21E-03	
40.0	3.48E+01	1.00E+02	8.62E+01	2.16E+01	5.45E-02	
42.0	3.34E+01	9.76E+01	9.60E+01	3.21E+01	3.23E-01	
44.0	3.21E+01	9.52E+01	1.03E+02	4.41E+01	8.30E-01	
46.0	3.06E+01	9.39E+01	1.02E+02	6.10E+01	3.52E+00	3.91E-06
48.0	2.91E+01	9.10E+01	1.03E+02	7.52E+01	7.89E+00	1.27E-03
50.0	2.77E+01	8.81E+01	1.00E+02	8.81E+01	1.42E+01	2.72E-02

Таблица 3

Расчетные функции возбуждения реакции $^{90}Sr(n,2pxn)Kr$

En	^{89}Kr	^{88}Kr	^{87}Kr	^{86}Kr	^{85}Kr	^{84}Kr
6.0			2.71E-04			
8.0			1.16E-02			
10.0			8.26E-02			
12.0			2.46E-01			
14.0			5.27E-01	9.74E-03		
16.0			7.52E-01	1.33E-01		
18.0			5.79E-01	1.04E+00		
20.0	1.60E-01		2.57E-01	2.51E+00		
22.0	7.32E-01		9.75E-02	3.81E+00	1.01E-04	
24.0	1.50E+00		3.48E-02	4.85E+00	1.73E-02	
26.0	2.31E+00		1.06E-02	5.15E+00	3.16E-01	
28.0	3.12E+00		3.84E-03	4.99E+00	1.71E+00	
30.0	4.10E+00	3.29E-05	1.33E-03	3.66E+00	3.96E+00	
32.0	5.18E+00	4.31E-04	4.62E-04	2.66E+00	5.92E+00	2.72E-04
34.0	6.23E+00	2.18E-03	1.48E-04	1.49E+00	7.23E+00	1.84E-02
36.0	7.11E+00	6.11E-03	1.11E-04	9.18E-01	8.14E+00	2.54E-01
38.0	7.55E+00	6.72E-02	3.80E-04	5.81E-01	7.59E+00	1.20E+00
40.0	7.79E+00	4.60E-01	2.15E-03	4.02E-01	6.17E+00	2.96E+00
42.0	8.16E+00	8.31E-01	8.20E-03	3.25E-01	4.85E+00	5.15E+00
44.0	8.17E+00	1.79E+00	2.04E-02	2.45E-01	3.80E+00	6.39E+00
46.0	8.09E+00	2.91E+00	4.30E-02	2.11E-01	2.77E+00	8.62E+00
48.0	7.97E+00	4.10E+00	7.07E-02	1.95E-01	2.11E+00	9.89E+00
50.0	7.86E+00	5.31E+00	1.16E-01	2.04E-01	1.73E+00	1.06E+01

Таблица 4

Расчетные функции возбуждения реакции $^{137}Cs(n,xn)Cs$

En	^{137}Cs	^{136}Cs	^{135}Cs	^{134}Cs	^{133}Cs
2.0	2.92E+03				
4.0	2.51E+03				
6.0	2.33E+03				
8.0	2.32E+03				
10.0	1.17E+03	9.79E+02			
12.0	4.70E+02	1.60E+03			
14.0	3.07E+02	1.75E+03			
16.0	2.44E+02	1.74E+03	1.66E+01		
18.0	2.08E+02	1.27E+03	4.50E+02		
20.0	1.94E+02	7.67E+02	9.31E+02		
22.0	1.83E+02	5.01E+02	1.18E+03		
24.0	1.66E+02	3.72E+02	1.27E+03		
26.0	1.54E+02	3.04E+02	1.29E+03	1.34E+01	
28.0	1.46E+02	2.65E+02	1.15E+03	1.51E+02	
30.0	1.39E+02	2.39E+02	9.67E+02	3.10E+02	
32.0	1.31E+02	2.20E+02	7.05E+02	5.74E+02	2.85E-02
34.0	1.22E+02	2.02E+02	5.51E+02	6.98E+02	7.10E+00
36.0	1.27E+02	1.91E+02	4.64E+02	7.15E+02	3.85E+01
38.0	1.22E+02	1.79E+02	3.91E+02	6.73E+02	1.31E+02
40.0	1.16E+02	1.68E+02	3.39E+02	5.84E+02	2.48E+02
42.0	1.10E+02	1.58E+02	3.02E+02	4.90E+02	3.54E+02
44.0	1.04E+02	1.49E+02	2.72E+02	4.11E+02	4.35E+02
46.0	9.97E+01	1.41E+02	2.50E+02	3.49E+02	4.85E+02
48.0	9.56E+01	1.35E+02	2.31E+02	3.01E+02	4.99E+02
50.0	9.17E+01	1.29E+02	2.16E+02	2.64E+02	4.80E+02

Таблица 5

Расчетные функции возбуждения реакции $^{137}Cs(n,pxn)Xe$

En	^{137}Xe	^{136}Xe	^{135}Xe	^{134}Xe	^{133}Xe	^{132}Xe
8.0	2.36E-02					
10.0	6.92E-01	3.11E-07				
12.0	3.64E+00	9.44E-01				
14.0	8.23E+00	2.75E+00				
16.0	1.43E+01	7.14E+00				
18.0	1.78E+01	1.32E+01	5.77E-05			
20.0	2.01E+01	2.81E+01	5.94E-03			
22.0	2.13E+01	4.72E+01	1.91E-01			
24.0	2.03E+01	6.53E+01	1.68E+00			
26.0	2.41E-01	7.94E+01	4.73E+00	1.58E-04		
28.0	2.39E+01	9.54E+01	1.28E+01	8.82E-03		
30.0	2.32E+01	1.07E+02	2.53E+01	1.18E-01		
32.0	2.21E+01	1.11E+02	4.18E+01	8.87E-01		
34.0	2.06E+01	1.08E+02	6.26E+01	3.42E+00	3.41E-05	
36.0	1.97E+01	1.09E+02	7.74E+01	8.45E+00	2.22E-03	
38.0	1.90E+01	1.06E+02	9.19E+01	1.66E+01	3.53E-02	
40.0	1.82E+01	1.04E+02	1.03E+02	2.73E+01	2.66E-01	2.16E-08
42.0	1.71E+01	1.01E+02	1.10E+02	3.97E+01	1.24E+00	4.05E-05
44.0	1.61E+01	9.79E+01	1.15E+02	5.18E+01	3.88E+00	2.31E-03
46.0	1.54E+01	9.84E+01	1.16E+02	5.67E+01	6.00E+00	2.20E-02
48.0	1.48E+01	9.65E+01	1.15E+02	6.84E+01	1.15E+01	8.65E-02
50.0	1.40E+01	9.60E+01	1.12E+02	8.17E+01	1.83E+01	3.81E-01

Таблица 6

Расчетные функции возбуждения реакции $^{137}Cs(n,2pxn)I$

En	^{136}I	^{135}I	^{134}I	^{133}I	^{132}I	^{131}I
8.0			5.92E-04			
10.0			3.84E-03			
12.0			1.43E-02			
14.0			3.93E-02	2.25E-03		
16.0			6.90E-02	2.51E-02		
18.0			6.28E-02	1.03E-01		
20.0	3.59E-01		2.90E-02	2.20E-01		
22.0	9.10E-01	5.01E-03	8.86E-03	3.28E-01	2.97E-04	
24.0	1.43E+00	6.22E-02	2.51E-03	4.42E-01	1.06E-02	
26.0	2.11E+00	1.72E-01	6.69E-04	4.98E-01	8.56E-02	
28.0	3.02E+00	2.62E-01	1.79E-04	4.26E-01	3.09E-01	7.10E-06
30.0	3.92E+00	2.95E-01	4.86E-05	2.81E-01	6.48E-01	1.55E-03
32.0	4.91E+00	3.03E-01	1.31E-05	1.45E-01	9.06E-01	2.67E-02
34.0	5.92E+00	3.07E-01	3.84E-06	7.86E-02	1.05E+00	1.56E-01
36.0	7.01E+00	4.01E-01	6.07E-06	4.84E-02	9.55E-01	4.07E-01
38.0	7.88E+00	8.11E-01	5.26E-05	3.31E-02	7.66E-01	8.38E-01
40.0	8.33E+00	1.61E+00	3.05E-04	2.56E-02	5.51E-01	1.29E+00
42.0	8.45E+00	2.66E+00	1.20E-03	2.13E-02	3.91E-01	1.71E+00
44.0	8.48E+00	3.84E+00	3.37E-03	2.03E-02	3.12E-01	2.12E+00
46.0	8.50E+00	5.14E+00	6.90E-03	1.63E-02	2.23E-01	2.21E+00
48.0	8.49E+00	6.46E+00	1.25E-02	1.58E-02	1.77E-01	2.10E+00
50.0	8.65E+00	7.61E+00	2.04E-02	1.74E-02	1.49E-01	1.88E+00

Таблица 7

Расчетные функции возбуждения реакции $^{137}Cs(n,3pxn)Te$

En	^{135}Te	^{134}Te	^{133}Te	^{132}Te	^{131}Te	^{130}Te
20.0			2.21E-09			
22.0			6.24E-08			
24.0			7.19E-07	1.02E-11		
26.0			3.38E-06	2.11E-09		
28.0			1.50E-05	1.78E-07		
30.0			4.94E-05	3.67E-06		
32.0			1.21E-04	3.52E-05	4.10E-10	
34.0			2.19E-04	1.81E-04	3.15E-08	
36.0	5.79E-17	1.78E-18	2.71E-04	6.39E-04	1.07E-06	
38.0	1.03E-14	3.84E-15	3.33E-04	1.53E-03	1.54E-05	4.23E-11
40.0	4.55E-13	3.45E-13	4.02E-04	3.21E-03	1.28E-04	9.18E-09
42.0	6.52E-12	9.30E-12	4.18E-04	5.34E-03	6.41E-04	3.38E-07
44.0	4.77E-11	1.22E-10	4.17E-04	7.56E-03	2.08E-03	4.67E-06
46.0	2.08E-10	9.52E-10	4.09E-04	9.56E-03	5.06E-03	4.52E-05
48.0	5.59E-10	4.91E-09	3.41E-04	1.02E-02	9.41E-03	2.93E-04
50.0	1.32E-09	2.67E-08	3.28E-04	1.10E-02	1.53E-02	1.34E-03

Таблица 8

Расчетные функции возбуждения реакции $^{93}Zr(n,xn)Zr$

En	^{93}Zr	^{92}Zr	^{91}Zr	^{90}Zr	^{89}Zr
2.0	2.38E+03				
4.0	2.03E+03				
6.0	2.01E+03				
8.0	1.14E+03	3.37E+00			
10.0	3.81E+02	1.05E+03			
12.0	2.19E+02	1.39E+03			
14.0	1.67E+02	1.49E+03			
16.0	1.40E+02	1.47E+03			
18.0	1.23E+02	1.19E+03	2.36E+02		
20.0	1.16E+02	7.94E+02	5.95E+02		
22.0	1.11E+02	5.35E+02	8.26E+02		
24.0	1.14E+02	4.11E+02	8.96E+02		
26.0	1.05E+02	3.16E+02	8.84E+02	1.27E+01	
28.0	9.81E+01	2.64E+02	7.45E+02	9.97E+01	
30.0	9.33E+01	2.36E+02	5.79E+02	2.40E+02	
32.0	8.82E+01	2.16E+02	4.47E+02	3.71E+02	
34.0	8.25E+01	1.91E+02	3.91E+02	4.22E+02	
36.0	7.72E+01	1.77E+02	3.19E+02	4.85E+02	
38.0	7.28E+01	1.66E+02	2.71E+02	5.14E+02	9.62E-01
40.0	6.91E+01	1.56E+02	2.37E+02	5.11E+02	1.00E+01
42.0	6.55E+01	1.48E+02	2.12E+02	4.77E+02	3.45E+01
44.0	6.21E+01	1.40E+02	1.94E+02	4.27E+02	7.11E+01
46.0	5.89E+01	1.33E+02	1.79E+02	3.77E+02	1.11E+02
48.0	5.59E+01	1.32E+02	1.65E+02	3.18E+02	1.47E+02
50.0	5.31E+01	1.25E+02	1.54E+02	2.82E+02	1.74E+02

Таблица 9

Расчетные функции возбуждения реакции $^{93}Zr(n,pxn)Y$

En	^{93}Y	^{92}Y	^{91}Y	^{90}Y	^{89}Y	^{88}Y
6.0	2.08E-01					
8.0	1.64E+00					
10.0	6.30E+00					
12.0	1.77E+01	1.86E-03				
14.0	3.14E+01	6.09E+00				
16.0	4.55E+01	1.32E+01				
18.0	5.19E+01	2.19E+01	1.62E-03			
20.0	5.66E+01	3.37E+01	1.23E-01			
22.0	5.88E+01	5.24E+01	8.03E-01			
24.0	5.74E+01	7.39E+01	3.49E+00			
26.0	5.47E+01	9.09E+01	1.11E+01	5.76E-05		
28.0	5.27E+01	1.03E+02	2.31E+01	3.15E-02		
30.0	5.16E+01	1.10E+02	4.03E+01	3.76E-01		
32.0	4.98E+01	1.12E+02	6.15E+01	1.61E+00		
34.0	4.70E+01	1.09E+02	8.31E+01	7.03E+00	3.44E-04	
36.0	4.43E+01	1.06E+02	9.96E+01	1.56E+01	3.60E-02	
38.0	4.22E+01	1.04E+02	1.07E+02	3.14E+01	4.49E+00	
40.0	4.05E+01	1.01E+02	1.16E+02	4.30E+01	1.76E+01	
42.0	3.88E+01	9.80E+01	1.24E+02	5.39E+01	3.59E+01	
44.0	3.69E+01	9.66E+01	1.27E+02	6.29E+01	5.42E+01	
46.0	3.51E+01	9.35E+01	1.29E+02	7.09E+01	7.03E+01	6.39E-05
48.0	3.34E+01	9.04E+01	1.27E+02	7.80E+01	8.41E+01	7.72E-03
50.0	3.19E+01	8.78E+01	1.24E+02	8.58E+01	9.48E+01	9.29E-02

Таблица 10

Расчетные функции возбуждения реакции $^{93}Zr(n,2pxn)Sr$

En	^{92}Sr	^{91}Sr	^{90}Sr	^{89}Sr	^{88}Sr	^{87}Sr
4.0			1.83E-03			
6.0			8.12E-02			
8.0			3.71E-01			
10.0			8.00E-01			
12.0			1.31E+00	1.02E-01		
14.0			1.80E+00	1.33E+00		
16.0	3.27E-01		1.31E+00	4.90E+00		
18.0	7.57E-01		8.83E-01	7.86E+00	5.24E-04	
20.0	1.48E+00		3.32E-01	1.06E+01	9.17E-02	
22.0	2.25E+00	5.42E-10	1.03E-01	1.07E+01	1.34E+00	
24.0	3.07E+00	6.39E-07	3.74E-02	8.93E+00	5.52E+00	
26.0	3.91E+00	2.03E-05	1.26E-02	5.61E+00	1.30E+01	
28.0	4.86E+00	2.45E-04	4.24E-03	3.01E+00	1.92E+01	
30.0	6.02E+00	1.73E-03	1.46E-03	1.72E+00	2.46E+01	1.53E-03
32.0	7.19E+00	7.13E-03	4.68E-04	1.06E+00	2.83E+01	8.02E-02
34.0	8.26E+00	1.94E-02	5.03E-04	8.01E-01	3.20E+01	9.64E-01
36.0	9.34E+00	4.26E-02	2.11E-03	7.00E-01	3.12E+01	3.26E+00
38.0	1.04E+01	2.29E-01	1.53E-02	5.78E-01	2.85E+01	8.64E+00
40.0	1.10E+01	8.44E-01	4.42E-02	5.04E-01	2.36E+01	1.54E+01
42.0	1.13E+01	1.83E+00	9.92E-02	4.93E-01	1.89E+01	2.25E+01
44.0	1.13E+01	2.99E+00	2.02E-01	4.63E-01	1.51E+01	2.82E+01
46.0	1.12E+01	4.23E+00	2.97E-01	4.13E-01	1.16E+01	3.00E+01
48.0	1.11E+01	5.49E+00	4.19E-01	4.57E-01	9.41E+00	3.01E+01
50.0	1.09E+01	6.63E+00	4.91E-01	5.39E-01	9.01E+00	2.82E+01

Таблица 11

Расчетные функции возбуждения реакции $^{93}Zr(n,3pxn)Rb$

En	^{91}Rb	^{90}Rb	^{89}Rb	^{88}Rb	^{87}Rb	^{86}Rb
18.0			9.47E-09			
20.0			1.18E-06			
22.0			2.33E-05	1.93E-10		
24.0			1.95E-04	2.24E-07		
26.0			7.93E-04	7.43E-06		
28.0			2.41E-03	1.08E-04		
30.0			6.27E-03	9.88E-04	1.74E-07	
32.0	1.53E-15		1.20E-02	5.64E-03	1.52E-05	
34.0	2.98E-12		1.78E-02	2.09E-02	3.29E-04	
36.0	2.10E-10		1.89E-02	4.60E-02	1.33E-03	
38.0	8.29E-09	2.26E-12	2.15E-02	1.05E-01	1.55E-02	6.84E-11
40.0	6.23E-08	3.43E-10	2.11E-02	1.56E-01	5.20E-02	3.87E-08
42.0	2.99E-07	8.13E-09	2.03E-02	1.93E-01	1.48E-01	6.45E-06
44.0	1.08E-06	1.74E-07	1.95E-02	2.19E-01	3.02E-01	1.91E-04
46.0	2.81E-06	1.24E-06	1.66E-02	2.08E-01	4.75E-01	2.04E-03
48.0	5.74E-06	5.76E-06	1.70E-02	2.56E-01	7.33E-01	8.21E-03
50.0	9.69E-06	1.75E-05	1.61E-02	2.59E-01	9.61E-01	3.20E-02

Таблица 12

Расчетные функции возбуждения реакции ^{94}Nb(n,Xn)Nb

En	^{94}Nb	^{93}Nb	^{92}Nb	^{91}Nb	^{90}Nb
2.0	0.237E+04				
4.0	0.203E+04				
6.0	0.202E+04				
8.0	0.162E+04	0.287E+03			
10.0	0.616E+03	0.115E+04			
12.0	0.320E+03	0.139E+04			
14.0	0.226E+03	0.144E+04			
16.0	0.184E+03	0.141E+04			
18.0	0.160E+03	0.115E+04	0.113E+03		
20.0	0.151E+03	0.787E+03	0.322E+03		
22.0	0.145E+03	0.535E+03	0.582E+03		
24.0	0.144E+03	0.415E+03	0.686E+03		
26.0	0.133E+03	0.321E+03	0.795E+03	0.338E+01	
28.0	0.124E+03	0.269E+03	0.760E+03	0.528E+02	
30.0	0.119E+03	0.239E+03	0.649E+03	0.119E+03	
32.0	0.113E+03	0.219E+03	0.521E+03	0.225E+03	
34.0	0.106E+03	0.202E+03	0.415E+03	0.314E+03	
36.0	0.994E+02	0.187E+03	0.338E+03	0.364E+03	
38.0	0.941E+02	0.175E+03	0.285E+03	0.374E+03	
40.0	0.897E+02	0.165E+03	0.248E+03	0.349E+03	0.280E+00
42.0	0.855E+02	0.155E+03	0.221E+03	0.309E+03	0.334E+01
44.0	0.811E+02	0.147E+03	0.201E+03	0.266E+03	0.170E+02
46.0	0.769E+02	0.140E+03	0.184E+03	0.232E+03	0.350E+02
48.0	0.732E+02	0.127E+03	0.170E+03	0.201E+03	0.651E+02
50.0	0.699E+02	0.127E+03	0.159E+03	0.185E+03	0.732E+02

Таблица 13

Расчетные функции возбуждения реакции ^{94}Nb(n,pxn)Zr

En	^{94}Zr	^{93}Zr	^{92}Zr	^{91}Zr	^{90}Zr
4.0	0.103E+01				
6.0	0.468E+01				
8.0	0.124E+02	0.175E-03			
10.0	0.241E+02	0.277E+01			
12.0	0.427E+02	0.110E+02			
14.0	0.515E+02	0.226E+02			
16.0	0.536E+02	0.371E+02	0.173E-02		
18.0	0.535E+02	0.606E+02	0.209E+00		
20.0	0.546E+02	0.824E+02	0.275E+01		
22.0	0.544E+02	0.998E+02	0.132E+02		
24.0	0.520E+02	0.115E+03	0.238E+02	0.568E-03	
26.0	0.491E+02	0.120E+03	0.439E+02	0.879E-01	
28.0	0.470E+02	0.119E+03	0.671E+02	0.922E+00	
30.0	0.452E+02	0.117E+03	0.924E+02	0.447E+01	
32.0	0.431E+02	0.114E+03	0.104E+03	0.143E+02	0.518E-04
34.0	0.406E+02	0.109E+03	0.116E+03	0.294E+02	0.576E-02
36.0	0.384E+02	0.105E+03	0.125E+03	0.475E+02	0.585E+00
38.0	0.365E+02	0.101E+03	0.130E+03	0.650E+02	0.816E+01
40.0	0.348E+02	0.994E+02	0.136E+03	0.798E+02	0.320E+02
42.0	0.372E+02	0.964E+02	0.139E+03	0.867E+02	0.686E+02
44.0	0.354E+02	0.934E+02	0.139E+03	0.941E+02	0.118E+03
46.0	0.336E+02	0.905E+02	0.144E+03	0.960E+02	0.144E+03
48.0	0.320E+02	0.889E+02	0.141E+03	0.103E+03	0.149E+03
50.0	0.306E+02	0.873E+02	0.137E+03	0.109E+03	0.160E+03

Таблица 14

Расчетные функции возбуждения реакции ^{94}Nb(n,2pxn)Y

En	^{93}Y	^{92}Y	^{91}Y	^{90}Y	^{89}Y
2.0			0.266E-01		
4.0			0.396E+00		
6.0			0.152E+01		
8.0			0.210E+01		
10.0			0.352E+01	0.193E-01	
12.0			0.555E+01	0.774E+00	
14.0	0.436E+00		0.583E+01	0.709E+01	
16.0	0.106E+01		0.318E+01	0.165E+02	
18.0	0.173E+01		0.118E+01	0.238E+02	0.919E-01
20.0	0.272E+01	0.372E-08	0.414E+00	0.280E+02	0.401E+02
22.0	0.370E+01	0.335E-05	0.140E+00	0.289E+02	0.577E+02
24.0	0.471E+01	0.130E-03	0.470E-01	0.226E+02	0.641E+02
26.0	0.574E+01	0.147E-02	0.157E-01	0.149E+02	0.687E+02
28.0	0.688E+01	0.987E-02	0.496E-02	0.857E+01	0.717E+02
30.0	0.823E+01	0.375E-01	0.183E-02	0.546E+01	0.734E+02
32.0	0.955E+01	0.949E-01	0.276E-02	0.406E+01	0.741E+02
34.0	0.107E+02	0.197E+00	0.140E-01	0.313E+01	0.701E+02
36.0	0.114E+02	0.493E+00	0.498E-01	0.259E+01	0.598E+02
38.0	0.120E+02	0.158E+01	0.151E+00	0.202E+01	0.499E+02
40.0	0.121E+02	0.289E+01	0.329E+00	0.181E+01	0.407E+02
42.0	0.120E+02	0.430E+01	0.540E+00	0.209E+01	0.362E+02
44.0	0.118E+02	0.575E+01	0.838E+00	0.196E+01	0.308E+02
46.0	0.116E+02	0.717E+01	0.113E+01	0.190E+01	0.252E+02
48.0	0.114E+02	0.849E+01	0.143E+01	0.183E+01	0.216E+02
50.0	0.112E+02	0.960E+01	0.186E+01	0.218E+01	0.204E+02

Таблица 15

Расчетные функции возбуждения реакции ^{94}Nb(n,3pxn)Sr

En	^{92}Sr	^{91}Sr	^{90}Sr	^{89}Sr	^{88}Sr
14.0			0.212E-06		
16.0			0.183E-04		
18.0			0.452E-03	0.741E-08	
20.0			0.246E-02	0.255E-05	
22.0			0.707E-02	0.996E-04	
24.0			0.184E-01	0.125E-02	
26.0			0.356E-01	0.950E-02	0.747E-07
28.0	0.179E-11		0.553E-01	0.450E-01	0.134E-03
30.0	0.370E-09		0.602E-01	0.120E+00	0.209E-01
32.0	0.109E-07	0.566E-12	0.631E-01	0.251E+00	0.703E+00
34.0	0.131E-06	0.335E-09	0.656E-01	0.416E+00	0.129E+01
36.0	0.517E-06	0.124E-07	0.615E-01	0.545E+00	0.277E+01
38.0	0.333E-05	0.473E-06	0.576E-01	0.657E+00	0.373E+01
40.0	0.963E-05	0.338E-05	0.480E-01	0.675E+00	0.424E+01
42.0	0.174E-04	0.129E-04	0.483E-01	0.687E+00	0.449E+01
44.0	0.288E-04	0.473E-04	0.456E-01	0.675E+00	0.469E+01
46.0	0.443E-04	0.133E-03	0.429E-01	0.630E+00	0.490E+01
48.0	0.661E-04	0.327E-03	0.403E-01	0.618E+00	0.541E+01
50.0	0.107E-03	0.587E-03	0.333E-01	0.586E+00	0.597E+01

Таблица 16

Расчетные функции возбуждения реакции $^{96}Zr(n,xn)Zr$

En	^{96}Zr	^{95}Zr	^{94}Zr	^{93}Zr	^{92}Zr
2.0	2.34E+03				
4.0	2.05E+03				
6.0	2.06E+03				
8.0	1.94E+03				
10.0	6.82E+02	1.12E+03			
12.0	3.04E+02	1.48E+03			
14.0	1.96E+02	1.57E+03			
16.0	1.51E+02	1.34E+03			
18.0	1.30E+02	8.48E+02	3.71E+02		
20.0	1.22E+02	5.30E+02	7.42E+02		
22.0	1.14E+02	3.60E+02	9.68E+02		
24.0	1.03E+02	2.73E+02	1.06E+03	7.03E+00	
26.0	1.06E+02	2.34E+02	1.01E+03	6.19E+01	
28.0	1.00E+02	2.04E+02	8.59E+02	2.18E+02	
30.0	9.52E+01	1.85E+02	6.54E+02	3.95E+02	
32.0	8.92E+01	1.70E+02	5.03E+02	5.32E+02	5.46E-02
34.0	8.29E+01	1.58E+02	3.92E+02	6.03E+02	2.54E+00
36.0	7.78E+01	1.46E+02	3.17E+02	5.96E+02	2.38E+01
38.0	7.35E+01	1.37E+02	2.67E+02	5.40E+02	7.58E+01
40.0	6.97E+01	1.29E+02	2.32E+02	4.66E+02	1.48E+02
42.0	6.60E+01	1.26E+02	2.12E+02	4.07E+02	1.99E+02
44.0	6.24E+01	1.19E+02	2.08E+02	3.52E+02	2.40E+02
46.0	5.91E+01	1.12E+02	1.90E+02	3.01E+02	2.87E+02
48.0	5.61E+01	1.06E+02	1.76E+02	2.62E+02	3.16E+02
50.0	5.34E+01	9.90E+01	1.63E+02	2.27E+02	3.31E+02

Таблица 17

Расчетные функции возбуждения реакции $^{96}Zr(n,pxn)Y$

En	^{96}Y	^{95}Y	^{94}Y	^{93}Y	^{92}Y	^{91}Y
10.0	1.30E-01					
12.0	1.91E+00					
14.0	8.84E+00	2.39E-04				
16.0	1.97E+01	4.32E+00				
18.0	2.95E+01	9.32E+00				
20.0	3.72E+01	1.77E+01	4.35E-05			
22.0	4.05E+01	2.87E+01	1.37E-02			
24.0	4.35E+01	4.31E+01	1.62E-01			
26.0	4.25E+01	6.17E+01	1.12E+00	2.45E-08		
28.0	4.21E+01	7.97E+01	3.54E+00	3.22E-03		
30.0	4.16E+01	9.40E+01	1.04E+01	6.94E-02		
32.0	4.03E+01	1.04E+02	2.17E+01	3.87E-01		
34.0	3.82E+01	1.07E+02	3.82E+01	1.57E+00	3.25E-07	
36.0	3.63E+01	1.06E+02	5.52E+01	4.69E+00	8.16E-04	
38.0	3.47E+01	1.04E+02	7.17E+01	1.02E+01	3.02E-02	
40.0	3.33E+01	1.01E+02	8.56E+01	1.79E+01	3.06E-01	
42.0	3.20E+01	9.89E+01	9.62E+01	2.74E+01	1.03E+00	2.01E-05
44.0	3.05E+01	9.61E+01	1.04E+02	3.76E+01	2.79E+00	1.89E-03
46.0	2.90E+01	9.41E+01	1.07E+02	4.64E+01	7.27E+00	4.83E-02
48.0	2.77E+01	9.09E+01	1.08E+02	5.77E+01	1.38E+01	2.52E-01
50.0	2.64E+01	8.87E+01	1.07E+02	6.83E+01	2.10E+01	1.01E+00

Таблица 18

Расчетные функции возбуждения реакции ^{96}Zr(n,2pxn)Sr

En	^{95}Sr	^{94}Sr	^{93}Sr	^{92}Sr	^{91}Sr	^{90}Sr
8.0			1.29E-03			
10.0			1.66E-02			
12.0			6.70E-02			
14.0			1.84E-01	2.56E-03		
16.0			2.72E-01	8.35E-02		
18.0			1.86E-01	5.29E-01		
20.0			8.00E-02	1.26E+00	1.04E-03	
22.0	5.58E-01		2.58E-02	1.81E+00	5.65E-02	
24.0	1.21E+00		9.19E-03	2.13E+00	5.57E-01	
26.0	2.02E+00	2.66E-12	3.03E-03	1.68E+00	1.66E+00	
28.0	2.90E+00	5.08E-09	1.01E-03	1.02E+00	3.07E+00	1.40E-03
30.0	3.90E+00	6.34E-07	3.33E-04	6.99E-01	4.18E+00	3.91E-02
32.0	4.91E+00	2.40E-05	1.05E-04	4.52E-01	4.87E+00	3.50E-01
34.0	5.86E+00	1.88E-04	3.62E-05	2.63E-01	4.59E+00	1.49E+00
36.0	6.90E+00	7.86E-04	1.91E-05	1.65E-01	3.71E+00	3.53E+00
38.0	7.94E+00	2.73E-03	9.11E-05	1.06E-01	2.64E+00	5.79E+00
40.0	8.64E+00	2.38E-02	5.93E-04	8.27E-02	1.88E+00	7.89E+00
42.0	8.94E+00	2.68E-01	2.62E-03	7.53E-02	1.49E+00	9.09E+00
44.0	8.99E+00	7.46E-01	7.78E-03	6.59E-02	1.13E+00	9.50E+00
46.0	8.93E+00	1.67E+00	1.59E-02	5.31E-02	8.56E-01	8.77E+00
48.0	8.84E+00	2.78E+00	3.22E-02	5.15E-02	7.14E-01	7.77E+00
50.0	8.76E+00	3.99E+00	4.81E-02	5.48E-02	7.03E-01	6.68E+00

Таблица 19

Расчетные функции возбуждения реакции ^{96}Zr(n,3pxn)Rb

En	^{94}Rb	^{93}Rb	^{92}Rb	^{91}Rb	^{90}Rb	^{89}Rb
22.0			1.33E-10			
24.0			3.50E-08			
26.0			1.65E-06	2.30E-10		
28.0			2.59E-05	9.27E-08		
30.0			1.74E-04	6.08E-06		
32.0			6.73E-04	7.13E-05	2.42E-11	
34.0			1.43E-03	5.91E-04	3.47E-08	
36.0			2.56E-03	2.83E-03	2.25E-06	
38.0			3.36E-03	8.25E-03	3.94E-05	7.52E-12
40.0	1.01E-14		3.83E-03	1.74E-02	3.45E-04	2.09E-08
42.0	3.27E-12	1.66E-15	4.05E-03	2.99E-02	1.94E-03	1.50E-06
44.0	1.43E-10	5.64E-13	3.61E-03	4.09E-02	7.51E-03	3.08E-05
46.0	2.18E-09	4.07E-11	3.81E-03	5.52E-02	2.19E-02	3.66E-04
48.0	2.62E-08	2.20E-09	3.70E-03	6.24E-02	5.64E-02	2.75E-03
50.0	9.66E-08	2.75E-08	3.57E-03	6.50E-02	8.90E-02	1.07E-02

Таблица 20

Расчетные функции возбуждения реакции ^{99}Tc(n,xn)Tc

En	^{99}Tc	^{98}Tc	^{97}Tc	^{96}Tc	^{95}Tc
2.0	2.30E+03				
4.0	2.08E+03				
6.0	2.11E+03				
8.0	1.95E+03				
10.0	1.28E+03	5.29E+02			
12.0	5.57E+02	1.23E+03			
14.0	3.15E+02	1.42E+03			
16.0	2.22E+02	1.43E+03			
18.0	1.88E+02	1.26E+03	1.35E+02		
20.0	1.78E+02	8.81E+02	4.92E+02		
22.0	1.65E+02	5.83E+02	7.60E+02		
24.0	1.51E+02	3.98E+02	8.95E+02		
26.0	1.53E+02	3.17E+02	9.13E+02		
28.0	1.46E+02	2.59E+02	8.88E+02	9.48E+00	
30.0	1.39E+02	2.26E+02	7.68E+02	7.78E+01	
32.0	1.31E+02	2.04E+02	6.16E+02	1.95E+02	
34.0	1.22E+02	1.86E+02	4.84E+02	3.10E+02	
36.0	1.15E+02	1.73E+02	3.86E+02	3.92E+02	5.94E-01
38.0	1.10E+02	1.67E+02	3.29E+02	4.18E+02	5.48E+00
40.0	1.05E+02	1.57E+02	2.81E+02	4.30E+02	2.73E+01
42.0	9.98E+01	1.48E+02	2.47E+02	4.08E+02	6.72E+01
44.0	9.47E+01	1.40E+02	2.22E+02	3.67E+02	1.16E+02
46.0	9.00E+01	1.32E+02	2.02E+02	3.20E+02	1.60E+02
48.0	8.59E+01	1.25E+02	1.90E+02	2.81E+02	1.79E+02
50.0	8.24E+01	1.19E+02	1.77E+02	2.46E+02	1.98E+02

Таблица 21

Расчетные функции возбуждения реакции ^{99}Tc(n,pxn)Mo

En	^{99}Mo	^{98}Mo	^{97}Mo	^{96}Mo	^{95}Mo	^{94}Mo
4.0	9.83E-02					
6.0	1.58E+00					
8.0	5.59E+00					
10.0	1.39E+01	1.14E-03				
12.0	2.53E+01	5.14E+00				
14.0	3.46E+01	1.28E+01				
16.0	3.77E+01	2.56E+01				
18.0	4.36E+01	4.01E+01	1.57E-02			
20.0	4.58E+01	6.41E+01	4.30E-01			
22.0	4.46E+01	8.73E+01	3.68E+00			
24.0	4.21E+01	1.04E+02	1.35E+01			
26.0	4.05E+01	1.20E+02	2.35E+01	1.59E-03		
28.0	3.92E+01	1.30E+02	4.09E+01	1.17E-01		
30.0	3.75E+01	1.37E+02	6.06E+01	9.35E-01		
32.0	3.55E+01	1.37E+02	7.90E+01	3.99E+00		
34.0	3.33E+01	1.32E+02	9.36E+01	1.17E+01	4.02E-05	
36.0	3.17E+01	1.27E+02	1.05E+02	2.95E+01	2.36E-02	
38.0	3.03E+01	1.23E+02	1.14E+02	4.48E+01	2.76E-01	
40.0	2.89E+01	1.20E+02	1.21E+02	6.22E+01	1.37E+00	
42.0	2.74E+01	1.17E+02	1.24E+02	7.90E+01	4.92E+00	8.11E-07
44.0	2.60E+01	1.12E+02	1.25E+02	8.89E+01	1.19E+01	8.93E-04
46.0	2.46E+01	1.09E+02	1.23E+02	9.76E+01	2.30E+01	8.70E-02
48.0	2.34E+01	1.07E+02	1.19E+02	1.05E+02	3.53E+01	6.57E-01
50.0	2.24E+01	1.06E+02	1.08E+02	1.14E+02	5.17E+01	3.32E+00

Таблица 22

Расчетные функции возбуждения реакции ^{99}Tc(n,2pxn)Nb

En	^{98}Nb	^{97}Nb	^{96}Nb	^{95}Nb	^{94}Nb	^{93}Nb
4.0			2.69E-02			
6.0			5.00E-01			
8.0			1.56E+00			
10.0			2.82E+00			
12.0			4.39E+00	2.01E-01		
14.0			5.88E+00	2.35E+00		
16.0	4.98E-01		4.38E+00	8.64E+00		
18.0	1.02E+00		2.76E+00	1.35E+01		
20.0	1.94E+00		1.02E+00	1.80E+01	1.33E-02	
22.0	2.76E+00	2.83E-07	3.11E-01	1.96E+01	4.19E-01	
24.0	3.63E+00	2.00E-05	1.02E-01	1.98E+01	3.30E+00	
26.0	4.68E+00	4.18E-04	3.48E-02	1.64E+01	9.93E+00	
28.0	5.81E+00	4.14E-03	1.13E-02	1.05E+01	1.87E+01	3.48E-03
30.0	7.06E+00	1.96E-02	3.76E-03	7.34E+00	2.24E+01	4.49E-02
32.0	8.22E+00	5.65E-02	1.19E-03	3.93E+00	2.77E+01	5.85E-01
34.0	9.23E+00	1.87E-01	1.30E-03	2.24E+00	2.96E+01	3.16E+00
36.0	9.98E+00	7.44E-01	6.76E-03	1.41E+00	2.80E+01	9.19E+00
38.0	1.03E+01	1.80E+00	2.89E-02	9.93E-01	2.33E+01	1.66E+01
40.0	1.04E+01	3.11E+00	8.93E-02	7.56E-01	1.77E+01	2.47E+01
42.0	1.03E+01	4.51E+00	2.47E-01	6.40E-01	1.29E+01	3.09E+01
44.0	1.02E+01	5.92E+00	4.18E-01	5.82E-01	9.08E+00	3.44E+01
46.0	9.99E+00	6.65E+00	5.94E-01	5.71E-01	7.13E+00	3.56E+01
48.0	9.84E+00	8.00E+00	8.26E-01	6.24E-01	6.00E+00	3.40E+01
50.0	9.72E+00	9.37E+00	1.07E+00	8.04E-01	5.09E+00	3.06E+01

Таблица 23

Расчетные функции возбуждения реакции ^{99}Tc(n,3pxn)Zr

En	^{97}Zr	^{96}Zr	^{95}Zr	^{94}Zr	^{93}Zr	^{92}Zr
14.0			1.77E-07			
16.0			3.45E-05			
18.0			3.36E-04			
20.0			2.92E-03	1.15E-08		
22.0			1.04E-02	2.34E-06		
24.0			2.56E-02	1.11E-04		
26.0			4.35E-02	2.02E-03		
28.0			6.45E-02	1.68E-02	1.28E-07	
30.0	3.12E-10		7.98E-02	7.27E-02	1.54E-05	
32.0	1.80E-08		8.00E-02	1.84E-01	3.80E-04	
34.0	2.57E-07	3.76E-11	8.09E-02	3.22E-01	3.92E-03	
36.0	1.69E-06	1.33E-09	6.69E-02	4.86E-01	2.61E-02	5.87E-08
38.0	6.52E-06	4.70E-08	6.19E-02	6.46E-01	1.06E-01	3.09E-06
40.0	1.85E-05	7.80E-07	5.82E-02	7.66E-01	2.99E-01	1.23E-04
42.0	4.87E-05	1.17E-05	5.44E-02	8.20E-01	6.74E-01	1.76E-03
44.0	7.44E-05	4.19E-05	5.57E-02	8.16E-01	1.11E+00	1.37E-02
46.0	1.13E-04	1.39E-04	5.63E-02	7.71E-01	1.44E+00	5.64E-02
48.0	1.66E-04	3.55E-04	5.31E-02	8.25E-01	1.73E+00	1.53E-01
50.0	2.53E-04	7.55E-04	5.02E-02	7.90E-01	2.01E+00	4.43E-01

Таблица 24

Расчетные функции возбуждения реакции ^{107}Pd(n,Xn)Pd

En	^{107}Pd	^{106}Pd	^{105}Pd	^{104}Pd	^{103}Pd
2.0	2.23E+03				
4.0	2.24E+03				
6.0	2.20E+03				
8.0	1.19E+03	3.69E+02			
10.0	3.79E+02	1.39E+03			
12.0	1.98E+02	1.62E+03			
14.0	1.44E+02	1.62E+03			
16.0	1.26E+02	1.57E+03			
18.0	1.22E+02	1.41E+03	1.35E+02		
20.0	1.15E+02	9.86E+02	5.28E+02		
22.0	1.04E+02	6.32E+02	8.36E+02		
24.0	9.72E+01	4.88E+02	9.30E+02		
26.0	9.29E+01	3.63E+02	1.00E+03	7.53E-01	
28.0	9.96E+01	3.12E+02	9.37E+02	2.26E+01	
30.0	9.29E+01	2.72E+02	7.73E+02	1.28E+02	
32.0	8.66E+01	2.45E+02	5.87E+02	2.84E+02	
34.0	8.18E+01	2.26E+02	4.41E+02	4.27E+02	
36.0	7.80E+01	2.12E+02	3.46E+02	5.27E+02	1.45E-01
38.0	7.40E+01	2.00E+02	2.84E+02	5.77E+02	5.76E+00
40.0	6.97E+01	1.88E+02	2.45E+02	5.79E+02	3.17E+01
42.0	6.59E+01	1.78E+02	2.18E+02	5.37E+02	8.35E+01
44.0	6.25E+01	1.68E+02	1.98E+02	4.63E+02	1.74E+02
46.0	5.95E+01	1.61E+02	1.82E+02	3.93E+02	2.38E+02
48.0	5.67E+01	1.53E+02	1.70E+02	3.34E+02	2.81E+02
50.0	5.41E+01	1.47E+02	1.50E+02	2.84E+02	3.06E+02

Таблица 25

Расчетные функции возбуждения реакции ^{107}Pd(n,p,Xn)Rh

En	^{107}Rh	^{106}Rh	^{105}Rh	^{104}Rh	^{103}Rh	^{102}Rh
6.0	6.71E-01					
8.0	3.22E+00					
10.0	1.16E+01					
12.0	2.13E+01	8.18E-04				
14.0	3.69E+01	6.44E+00				
16.0	5.14E+01	1.30E+01				
18.0	6.38E+01	2.52E+01	9.21E-04			
20.0	6.92E+01	3.67E+01	3.24E-02			
22.0	6.89E+01	5.08E+01	5.25E-01			
24.0	6.85E+01	7.07E+01	3.29E+00			
26.0	6.88E+01	8.89E+01	1.06E+01			
28.0	6.83E+01	1.04E+02	2.16E+01	5.52E-03		
30.0	6.56E+01	1.12E+02	3.90E+01	1.52E-01		
32.0	6.21E+01	1.14E+02	5.93E+01	1.12E+00		
34.0	5.97E+01	1.13E+02	8.02E+01	4.73E+00	4.39E-05	
36.0	5.80E+01	1.11E+02	9.77E+01	1.21E+01	8.87E-03	
38.0	5.59E+01	1.08E+02	1.13E+02	2.35E+01	1.43E-01	
40.0	5.33E+01	1.05E+02	1.27E+02	3.19E+01	6.23E-01	
42.0	5.06E+01	1.01E+02	1.36E+02	4.00E+01	1.14E+00	
44.0	4.83E+01	9.86E+01	1.43E+02	5.01E+01	3.88E+00	1.16E-08
46.0	4.64E+01	9.59E+01	1.49E+02	5.67E+01	9.22E+00	1.00E-04
48.0	4.46E+01	9.46E+01	1.51E+02	6.25E+01	1.76E+01	6.18E-03
50.0	4.27E+01	9.61E+01	1.50E+02	6.80E+01	2.70E+01	8.61E-02

Таблица 26

Расчетные функции возбуждения реакции $^{107}Pd(n,2pxn)Ru$

En	^{106}Ru	^{105}Ru	^{104}Ru	^{103}Ru	^{102}Ru	^{101}Ru
4.0			6.88E-03			
6.0			5.57E-02			
8.0			2.16E-01			
10.0			4.38E-01			
12.0			8.16E-01	9.75E-03		
14.0	1.94E-01		1.45E+00	1.34E-01		
16.0	5.12E-01		1.61E+00	1.00E+00		
18.0	1.15E+00		1.13E+00	3.20E+00		
20.0	1.88E+00		4.71E-01	5.20E+00	4.69E-03	
22.0	2.47E+00	6.15E-09	1.63E-01	6.32E+00	1.48E-01	
24.0	3.35E+00	1.24E-06	5.31E-02	6.28E+00	7.70E-01	
26.0	4.34E+00	1.66E-05	1.53E-02	4.30E+00	3.13E+00	
28.0	5.46E+00	3.47E-04	5.24E-03	2.61E+00	6.59E+00	
30.0	6.48E+00	5.24E-03	1.69E-03	1.30E+00	9.81E+00	3.41E-03
32.0	7.49E+00	2.04E-02	5.70E-04	6.25E-01	1.21E+01	9.14E-02
34.0	8.68E+00	4.99E-02	5.38E-04	2.96E-01	1.30E+01	7.60E-01
36.0	9.98E+00	8.78E-02	2.94E-03	1.65E-01	1.25E+01	2.90E+00

Таблица 27

Расчетные функции возбуждения реакции $^{107}Pd(n,3pxn)Tc$

En	^{105}Tc	^{104}Tc	^{103}Tc	^{102}Tc	^{101}Tc	^{100}Tc
18.0			1.91E-07			
20.0			8.12E-06			
22.0			8.99E-05			
24.0			5.09E-04	1.50E-08		
26.0			1.40E-03	9.00E-07		
28.0			3.72E-03	2.59E-05		
30.0	6.02E-14		9.48E-03	3.64E-04	4.16E-09	
32.0	6.56E-11		1.73E-02	3.09E-03	9.01E-07	
34.0	3.02E-09		2.50E-02	1.40E-02	2.82E-05	
36.0	4.85E-08	2.19E-14	3.00E-02	3.93E-02	3.64E-04	
38.0	3.46E-07	1.99E-11	2.75E-02	7.37E-02	2.75E-03	5.60E-11
40.0	1.48E-06	1.66E-09	2.66E-02	1.16E-01	1.35E-02	3.37E-08
42.0	4.73E-06	4.96E-08	2.51E-02	1.54E-01	5.49E-02	4.39E-06
44.0	1.25E-05	7.30E-07	2.39E-02	1.73E-01	1.23E-01	9.83E-05
46.0	2.39E-05	5.14E-06	2.45E-02	1.87E-01	2.01E-01	6.03E-04
48.0	5.29E-05	3.41E-05	2.07E-02	1.74E-01	3.10E-01	3.83E-03
50.0	7.86E-05	9.97E-05	1.97E-02	1.66E-01	4.30E-01	1.70E-02

Таблица 28

Расчетные функции возбуждения реакции $^{108}Ag(n,xn)Ag$

En	^{108}Ag	^{107}Ag	^{106}Ag	^{105}Ag	^{104}Ag
2.0	2.23E+03				
4.0	2.26E+03				
6.0	2.20E+03				
8.0	1.69E+03	2.96E+02			
10.0	6.52E+02	1.25E+03			
12.0	3.11E+02	1.54E+03			
14.0	2.04E+02	1.55E+03			
16.0	1.72E+02	1.51E+03			
18.0	1.65E+02	1.36E+03	1.21E+01		
20.0	1.56E+02	9.70E+02	2.50E+02		
22.0	1.43E+02	6.32E+02	5.73E+02		
24.0	1.34E+02	4.30E+02	7.84E+02		
26.0	1.29E+02	3.33E+02	9.21E+02	3.20E+00	
28.0	1.33E+02	2.93E+02	8.93E+02	3.50E+01	
30.0	1.24E+02	2.57E+02	7.81E+02	1.45E+02	
32.0	1.16E+02	2.33E+02	6.19E+02	2.87E+02	
34.0	1.11E+02	2.16E+02	4.73E+02	4.06E+02	
36.0	1.06E+02	2.03E+02	3.71E+02	4.80E+02	1.32E-02
38.0	1.01E+02	1.91E+02	3.07E+02	5.00E+02	1.96E+00
40.0	9.60E+01	1.80E+02	2.64E+02	4.71E+02	1.54E+01
42.0	9.11E+01	1.70E+02	2.34E+02	4.12E+02	4.80E+01
44.0	8.68E+01	1.62E+02	2.12E+02	3.48E+02	9.54E+01
46.0	8.33E+01	1.54E+02	1.95E+02	2.94E+02	1.46E+02
48.0	7.98E+01	1.47E+02	1.85E+02	2.57E+02	1.73E+02
50.0	7.64E+01	1.40E+02	1.73E+02	2.26E+02	2.03E+02

Таблица 29

Расчетные функции возбуждения реакции $^{108}Ag(n,pxn)Pd$

En	^{108}Pd	^{107}Pd	^{106}Pd	^{105}Pd	^{104}Pd	^{103}Pd
2.0	1.44E-01					
4.0	2.35E+00					
6.0	7.70E+00					
8.0	1.49E+01	1.51E-05				
10.0	3.25E+01	8.12E-03				
12.0	4.83E+01	8.43E+00				
14.0	5.97E+01	2.15E+01				
16.0	6.32E+01	3.49E+01	1.73E-04			
18.0	6.91E+01	5.59E+01	3.70E-02			
20.0	7.06E+01	8.10E+01	9.70E-01			
22.0	6.75E+01	9.73E+01	7.33E+00			
24.0	6.54E+01	1.07E+02	2.58E+01			
26.0	6.44E+01	1.21E+02	4.03E+01	3.59E-03		
28.0	6.27E+01	1.26E+02	6.04E+01	1.03E-01		
30.0	5.94E+01	1.24E+02	8.52E+01	9.54E-01		
32.0	5.62E+01	1.20E+02	1.11E+02	5.01E+00		
34.0	5.39E+01	1.16E+02	1.32E+02	1.60E+01	7.77E-05	
36.0	5.21E+01	1.13E+02	1.43E+02	3.22E+01	4.31E-01	
38.0	4.97E+01	1.11E+02	1.51E+02	5.12E+01	6.41E+00	
40.0	4.70E+01	1.07E+02	1.57E+02	6.87E+01	2.14E+01	
42.0	4.47E+01	1.04E+02	1.61E+02	8.25E+01	4.15E+01	1.66E-10
44.0	4.28E+01	1.01E+02	1.65E+02	9.05E+01	5.92E+01	1.12E-04
46.0	4.11E+01	9.78E+01	1.64E+02	9.51E+01	7.38E+01	8.39E-02
48.0	3.93E+01	9.64E+01	1.63E+02	9.26E+01	8.91E+01	5.71E-01
50.0	4.16E+01	9.38E+01	1.58E+02	9.72E+01	9.75E+01	2.43E+00

Таблица 30

Расчетные функции возбуждения реакции $^{108}Ag(n,2pxn)Rh$

En	^{107}Rh	^{106}Rh	^{105}Rh	^{104}Rh	^{103}Rh	^{102}Rh
4.0			8.00E-02			
6.0			3.34E-01			
8.0			5.73E-01			
10.0			9.06E-01			
12.0	1.75E-01		1.72E+00	2.57E-02		
14.0	6.23E-01		2.64E+00	4.94E-01		
16.0	1.19E+00		2.77E+00	1.77E+00		
18.0	2.13E+00		1.64E+00	4.56E+00		
20.0	3.05E+00		6.59E-01	6.91E+00	3.51E-03	
22.0	3.79E+00	2.08E-07	2.27E-01	8.91E+00	1.51E-01	
24.0	4.89E+00	2.63E-05	7.86E-02	9.78E+00	1.36E+00	
26.0	6.10E+00	7.92E-04	2.53E-02	7.80E+00	5.02E+00	
28.0	7.40E+00	8.32E-03	7.43E-03	4.61E+00	8.80E+00	
30.0	8.58E+00	3.82E-02	2.42E-03	2.57E+00	1.28E+01	1.38E-03
32.0	9.73E+00	1.02E-01	1.27E-03	1.43E+00	1.62E+01	4.97E-02
34.0	1.11E+01	1.81E-01	5.29E-03	8.36E-01	1.85E+01	5.25E-01
36.0	1.25E+01	3.08E-01	3.00E-02	5.38E-01	1.81E+01	2.41E+00
38.0	1.36E+01	5.81E-01	1.02E-01	3.53E-01	1.48E+01	5.99E+00
40.0	1.42E+01	1.34E+00	2.47E-01	2.88E-01	1.14E+01	9.14E+00
42.0	1.43E+01	2.50E+00	4.68E-01	2.71E-01	8.57E+00	1.41E+01
44.0	1.42E+01	3.81E+00	6.97E-01	2.53E-01	6.13E+00	1.82E+01
46.0	1.41E+01	5.28E+00	1.01E+00	2.65E-01	4.33E+00	2.03E+01
48.0	1.39E+01	6.84E+00	1.33E+00	3.35E-01	3.49E+00	1.87E+01
50.0	1.37E+01	8.25E+00	1.53E+00	4.25E-01	2.83E+00	1.58E+01

Таблица 31

Расчетные функции возбуждения реакции $^{108}Ag(n,3pxn)Ru$

En	^{106}Ru	^{105}Ru	^{104}Ru	^{103}Ru	^{102}Ru	^{101}Ru
14.0			4.17E-08			
16.0			6.63E-06			
18.0			1.55E-04			
20.0			1.16E-03	1.94E-09		
22.0			4.10E-03	1.34E-07		
24.0			1.07E-02	1.52E-05		
26.0			2.16E-02	4.27E-04		
28.0	4.88E-10		3.83E-02	4.57E-03	8.77E-09	
30.0	2.58E-08		5.43E-02	2.42E-02	2.19E-06	
32.0	3.76E-07	2.23E-13	6.19E-02	7.30E-02	6.36E-05	
34.0	2.28E-06	1.23E-10	6.13E-02	1.54E-01	8.94E-04	
36.0	9.45E-06	8.66E-09	5.40E-02	2.44E-01	7.48E-03	3.39E-10
38.0	2.65E-05	2.39E-07	4.96E-02	3.27E-01	3.77E-02	4.55E-07
40.0	6.10E-05	3.10E-06	4.58E-02	3.65E-01	1.41E-01	2.49E-05
42.0	1.18E-04	2.26E-05	4.26E-02	3.67E-01	2.58E-01	4.21E-04
44.0	1.74E-04	9.23E-05	3.97E-02	3.43E-01	4.82E-01	4.06E-03
46.0	2.54E-04	2.81E-04	3.31E-02	3.03E-01	7.47E-01	2.40E-02
48.0	3.64E-04	7.17E-04	3.38E-02	2.97E-01	1.06E+00	1.14E-01
50.0	4.82E-04	1.11E-03	3.18E-02	2.79E-01	1.20E+00	2.63E-01

Таблица 32

Расчетные функции возбуждения реакции $^{121}Sn(n,xn)Sn$

En	^{121}Sn	^{120}Sn	^{119}Sn	^{118}Sn	^{117}Sn
2.0	2.48E+03				
4.0	2.50E+03				
6.0	2.24E+03				
8.0	9.12E+02	8.00E+02			
10.0	2.79E+02	1.50E+03			
12.0	1.52E+02	1.73E+03			
14.0	1.30E+02	1.73E+03			
16.0	1.22E+02	1.73E+03			
18.0	1.13E+02	1.47E+03	2.30E+02		
20.0	1.01E+02	9.49E+02	7.05E+02		
22.0	9.68E+01	5.82E+02	1.03E+03		
24.0	9.38E+01	4.07E+02	1.16E+03		
26.0	8.73E+01	3.23E+02	1.06E+03	2.62E+01	
28.0	8.09E+01	2.77E+02	8.05E+02	2.50E+02	
30.0	7.60E+01	2.50E+02	5.64E+02	4.87E+02	
32.0	8.26E+01	2.38E+02	4.36E+02	6.16E+02	
34.0	7.85E+01	2.22E+02	3.32E+02	7.40E+02	5.47E-01
36.0	7.37E+01	2.08E+02	2.70E+02	7.88E+02	1.36E+01
38.0	6.93E+01	1.96E+02	2.32E+02	7.62E+02	6.68E+01
40.0	6.57E+01	1.86E+02	1.92E+02	6.55E+02	1.97E+02
42.0	6.27E+01	1.76E+02	1.76E+02	5.41E+02	3.07E+02
44.0	5.95E+01	1.68E+02	1.64E+02	4.43E+02	3.91E+02
46.0	5.65E+01	1.60E+02	1.53E+02	3.69E+02	4.30E+02
48.0	5.37E+01	1.53E+02	1.43E+02	3.18E+02	4.21E+02
50.0	5.11E+01	1.46E+02	1.34E+02	2.82E+02	3.82E+02

Таблица 33

Расчетные функции возбуждения реакции $^{121}Sn(n,pxn)In$

En	^{121}In	^{120}In	^{119}In	^{118}In	^{117}In	^{116}In
6.0	9.10E-03					
8.0	3.82E-01					
10.0	2.48E+00					
12.0	6.70E+00					
14.0	1.72E+01	3.00E-05				
16.0	2.95E+01	5.98E+00				
18.0	4.24E+01	1.24E+01				
20.0	5.14E+01	1.86E+01	6.39E-04			
22.0	5.78E+01	2.79E+01	1.83E-02			
24.0	6.24E+01	3.88E+01	2.15E-01			
26.0	6.34E+01	5.70E+01	1.69E+00			
28.0	6.20E+01	7.34E+01	6.22E+00	1.11E-04		
30.0	6.04E+01	8.60E+01	1.53E+01	8.19E-03		
32.0	5.97E+01	9.41E+01	2.99E+01	8.34E-02		
34.0	5.96E+01	9.58E+01	5.05E+01	5.79E-01	2.01E-07	
36.0	5.64E+01	9.42E+01	8.30E+01	1.81E+00	9.55E-05	
38.0	5.37E+01	9.21E+01	8.18E+01	5.30E+00	5.69E-03	
40.0	5.15E+01	9.02E+01	9.81E+01	1.12E+01	6.34E-02	
42.0	4.98E+01	9.02E+01	1.12E+02	1.87E+01	3.58E-01	
44.0	4.80E+01	8.83E+01	1.23E+02	2.73E+01	1.41E+00	2.66E-07
46.0	4.61E+01	8.63E+01	1.31E+02	3.62E+01	3.98E+00	1.30E-04
48.0	4.41E+01	8.42E+01	1.39E+02	4.74E+01	9.66E+00	6.30E-03
50.0	4.22E+01	8.01E+01	1.40E+02	5.75E+01	1.76E+01	5.83E-02

Таблица 34

Расчетные функции возбуждения реакции $^{121}Sn(n,2pxn)Cd$

En	^{210}Cd	^{119}Cd	^{118}Cd	^{117}Cd	^{116}Cd	^{115}Cd
8.0			3.80E-04			
10.0			2.85E-03			
12.0			9.14E-03			
14.0			2.35E-02			
16.0			5.22E-02	5.82E-03		
18.0	2.91E-01		7.81E-02	5.39E-02		
20.0	6.82E-01		6.17E-02	1.98E-01		
22.0	1.34E+00		2.64E-02	3.61E-01	4.09E-04	
24.0	2.16E+00		8.04E-03	4.41E-01	1.36E-02	
26.0	2.86E+00	3.57E-10	2.58E-03	4.22E-01	1.13E-01	
28.0	3.69E+00	3.06E-08	8.02E-04	2.82E-01	3.88E-01	
30.0	4.58E+00	1.45E-06	2.48E-04	1.46E-01	7.36E-01	4.21E-05
32.0	5.69E+00	2.94E-05	8.23E-05	7.25E-02	1.08E+00	2.62E-03
34.0	6.81E+00	2.30E-04	2.61E-05	3.39E-02	1.36E+00	3.49E-02
36.0	7.84E+00	9.47E-04	9.96E-06	1.59E-02	1.41E+00	1.92E-01
38.0	8.89E+00	2.52E-03	4.31E-05	9.06E-03	1.30E+00	5.73E-01
40.0	1.01E+01	5.17E-03	3.31E-04	6.72E-03	1.10E+00	1.08E+00
42.0	1.13E+01	5.13E-02	1.68E-03	4.50E-03	7.65E-01	1.63E+00
44.0	1.21E+01	3.58E-01	5.42E-03	3.75E-03	5.19E-01	2.05E+00
46.0	1.26E+01	1.03E+00	1.25E-02	3.66E-03	3.62E-01	2.09E+00
48.0	1.28E+01	1.99E+00	2.44E-02	4.11E-03	2.52E-01	1.82E+00
50.0	1.28E+01	3.13E+00	4.46E-02	7.50E-03	1.97E-01	1.53E+00

Таблица 35

Расчетные функции возбуждения реакции $^{121}Sn(n,3pxn)Ag$

En	^{119}Ag	^{118}Ag	^{117}Ag	^{116}Ag	^{115}Ag	^{114}Ag
22.0			1.[illegible]E-09			
24.0			3.79E-08			
26.0			4.44E-07			
28.0			2.61E-06	2.58E-11		
30.0			1.15E-05	1.99E-08		
32.0			3.94E-05	9.11E-07	3.30E-15	
34.0			1.09E-04	1.30E-05	5.02E-10	
36.0	8.15E-16		2.33E-04	8.67E-05	5.47E-08	
38.0	2.44E-13		3.97E-04	3.53E-04	1.53E-06	
40.0	1.04E-11	5.50E-18	5.92E-04	8.10E-04	8.60E-06	
42.0	1.82E-10	9.18E-15	7.83E-04	1.90E-03	7.02E-05	1.97E-13
44.0	1.51E-09	1.14E-12	8.78E-04	3.39E-03	3.83E-04	8.90E-09
46.0	7.00E-09	4.77E-11	9.22E-04	5.03E-03	1.42E-03	4.21E-07
48.0	3.03E-08	1.24E-09	9.32E-04	6.53E-03	4.04E-03	8.39E-07
50.0	1.23E-07	2.48E-08	9.20E-04	7.88E-03	1.06E-02	9.15E-05

Таблица 36

Расчетные функции возбуждения реакции $^{126}Sn(n,xn)Sn$

En	^{126}Sn	^{125}Sn	^{124}Sn	^{123}Sn	^{122}Sn	^{121}Sn
2.0	2.66E+03					
4.0	2.52E+03					
6.0	2.25E+03					
8.0	2.17E+03					
10.0	7.88E+02	1.31E+03				
12.0	2.98E+02	1.70E+03				
14.0	2.00E+02	1.73E+03				
16.0	1.68E+02	1.21E+03	1.88E+02			
18.0	1.47E+02	6.45E+02	7.65E+02			
20.0	1.31E+02	3.76E+02	1.15E+03			
22.0	1.25E+02	2.72E+02	1.31E+03	9.45E-01		
24.0	1.18E+02	2.26E+02	1.29E+03	7.55E+01		
26.0	1.09E+02	2.17E+02	1.11E+03	2.40E+02		
28.0	1.00E+02	1.94E+02	8.26E+02	5.17E+02		
30.0	9.55E+01	1.80E+02	5.96E+02	7.29E+02	2.58E-01	
32.0	9.12E+01	1.69E+02	4.47E+02	8.15E+02	1.42E+01	
34.0	8.55E+01	1.58E+02	3.53E+02	7.61E+02	8.46E+01	
36.0	7.98E+01	1.47E+02	2.94E+02	6.32E+02	2.17E+02	
38.0	7.53E+01	1.38E+02	2.57E+02	5.01E+02	3.61E+02	7.01E-03
40.0	7.17E+01	1.31E+02	2.32E+02	4.00E+02	4.80E+02	8.73E-01
42.0	7.70E+01	1.26E+02	2.16E+02	3.41E+02	5.30E+02	5.87E+00
44.0	7.28E+01	1.19E+02	1.99E+02	2.84E+02	5.69E+02	2.95E+01
46.0	6.90E+01	1.13E+02	1.85E+02	2.44E+02	5.60E+02	7.91E+01
48.0	6.57E+01	1.07E+02	1.87E+02	2.19E+02	5.18E+02	1.25E+02
50.0	6.26E+01	1.02E+02	1.66E+02	2.02E+02	4.68E+02	1.70E+02

Таблица 37

Расчетные функции возбуждения реакции $^{126}Sn(n,pxn)In$

En	^{126}In	^{125}In	^{124}In	^{123}In	^{122}In	^{121}In
12.0	5.52E-02					
14.0	1.38E+00	2.23E-08				
16.0	5.97E+00	1.10E+00				
18.0	1.45E+01	4.14E+00				
20.0	2.31E+01	8.53E+00				
22.0	3.11E+01	1.58E+01	1.40E-06			
24.0	3.54E+01	2.30E+01	9.41E-04			
26.0	3.71E+01	3.89E+01	2.71E-02			
28.0	3.74E+01	5.63E+01	4.73E-01	4.33E-06		
30.0	3.77E+01	7.39E+01	2.61E+00	7.60E-04		
32.0	3.75E+01	8.97E+01	8.10E+00	1.55E-02		
34.0	3.64E+01	1.01E+02	1.72E+01	1.96E-01		
36.0	3.50E+01	1.06E+02	2.95E+01	1.18E+00	8.14E-07	
38.0	3.38E+01	1.07E+02	4.49E+01	3.85E+00	2.42E-04	
40.0	3.25E+01	1.05E+02	6.10E+01	8.74E+00	5.68E-03	
42.0	3.14E+01	1.01E+02	7.45E+01	1.79E+01	6.76E-02	5.35E-08
44.0	3.00E+01	9.93E+01	8.26E+01	2.75E+01	4.37E-01	3.31E-05
46.0	2.88E+01	9.67E+01	8.98E+01	3.75E+01	1.64E+00	1.40E-03
48.0	2.76E+01	9.44E+01	9.37E+01	4.79E+01	4.18E+00	1.77E-02
50.0	2.64E+01	9.23E+01	9.39E+01	5.96E+01	8.13E+00	1.22E-01

Таблица 38

Расчетные функции возбуждения реакции $^{126}Sn(n,2pxn)Cd$

En	^{125}Cd	^{124}Cd	^{123}Cd	^{122}Cd	^{121}Cd	^{120}Cd
12.0			5.56E-06			
14.0			6.46E-05			
16.0			3.25E-04			
18.0			8.15E-04	5.01E-05		
20.0			1.42E-03	9.92E-04		
22.0			1.03E-03	5.54E-03		
24.0	3.29E-01		4.34E-04	1.41E-02	1.20E-05	
26.0	8.96E-01		1.46E-04	2.42E-02	5.89E-04	
28.0	1.64E+00		4.52E-05	3.16E-02	6.20E-03	
30.0	2.45E+00	3.64E-13	1.37E-05	2.85E-02	2.52E-02	3.83E-07
32.0	3.39E+00	1.23E-10	7.56E-06	2.22E-02	5.09E-02	6.11E-05
34.0	4.31E+00	1.86E-08	2.29E-06	1.22E-02	8.04E-02	1.45E-03
36.0	5.21E+00	7.12E-07	7.05E-07	6.07E-03	9.43E-02	1.19E-02
38.0	6.25E+00	8.04E-06	2.24E-07	3.04E-03	8.47E-02	4.55E-02
40.0	7.36E+00	4.15E-05	2.63E-07	1.75E-03	6.44E-02	1.06E-01
42.0	8.46E+00	2.56E-04	5.55E-06	1.04E-03	4.19E-02	1.56E-01
44.0	9.24E+00	1.94E-02	4.34E-05	7.59E-04	3.29E-02	1.98E-01
46.0	9.71E+00	2.21E-01	1.87E-04	6.25E-04	2.26E-02	2.46E-01
48.0	9.93E+00	7.69E-01	4.80E-04	5.48E-04	1.37E-02	2.61E-01
50.0	1.00E+01	1.16E+00	1.11E-03	5.27E-04	1.08E-02	2.48E-01

Таблица 39

Расчетные функции возбуждения реакции $^{126}Sn(n,3pxn)Ag$

En	^{124}Ag	^{123}Ag	^{122}Ag	^{121}Ag	^{120}Ag	^{119}Ag
28.0			9.74E-13			
30.0			1.79E-10	5.07E-16		
32.0			5.19E-09	5.12E-13		
34.0			6.65E-08	3.27E-10		
36.0			4.53E-07	2.15E-08		
38.0			1.92E-06	4.05E-07	2.10E-13	
40.0			4.68E-06	3.08E-06	9.17E-11	
42.0			1.05E-05	2.02E-05	7.07E-09	
44.0	4.48E-18		1.64E-05	6.39E-05	2.11E-07	9.05E-13
46.0	1.70E-15	2.62E-19	2.01E-05	1.47E-04	2.94E-06	2.76E-10
48.0	1.00E-13	1.67E-16	2.23E-05	2.74E-04	2.18E-05	1.50E-08
50.0	2.21E-12	2.57E-14	2.33E-05	4.29E-04	9.64E-05	3.26E-07

Таблица 40

Расчетные функции возбуждения реакции $^{129}I(n,xn)I$

En	^{129}I	^{128}I	^{127}I	^{126}I	^{125}I
2.0	2.76E+03				
4.0	2.52E+03				
6.0	2.26E+03				
8.0	2.22E+03				
10.0	1.55E+03	5.61E+02			
12.0	5.43E+02	1.45E+03			
14.0	3.01E+02	1.65E+03			
16.0	2.33E+02	1.69E+03			
18.0	2.01E+02	1.38E+03	1.38E+02		
20.0	1.82E+02	8.29E+02	6.29E+02		
22.0	1.75E+02	5.00E+02	1.08E+03		
24.0	1.66E+02	3.46E+02	1.20E+03		
26.0	1.54E+02	2.74E+02	1.23E+03	4.20E-01	
28.0	1.44E+02	2.36E+02	1.18E+03	4.23E+01	
30.0	1.38E+02	2.14E+02	1.00E+03	2.07E+02	
32.0	1.33E+02	1.99E+02	7.70E+02	4.18E+02	
34.0	1.36E+02	1.87E+02	6.17E+02	5.31E+02	1.56E-02
36.0	1.28E+02	1.74E+02	4.81E+02	6.35E+02	3.90E+00
38.0	1.22E+02	1.63E+02	3.93E+02	6.62E+02	3.67E+01
40.0	1.18E+02	1.55E+02	3.37E+02	6.12E+02	1.16E+02
42.0	1.12E+02	1.48E+02	2.98E+02	5.22E+02	2.19E+02
44.0	1.07E+02	1.40E+02	2.69E+02	3.99E+02	3.44E+02
46.0	1.02E+02	1.33E+02	2.47E+02	3.31E+02	4.04E+02
48.0	9.74E+01	1.26E+02	2.29E+02	2.83E+02	4.33E+02
50.0	9.36E+01	1.20E+02	2.15E+02	2.49E+02	4.31E+02

Таблица 41

Расчетные функции возбуждения реакции $^{129}I(n,pxn)Te$

En	^{129}Te	^{128}Te	^{127}Te	^{126}Te	^{125}Te	^{124}Te
6.0	2.88E-01					
8.0	2.19E+00					
10.0	7.47E+00	1.68E-05				
12.0	1.64E+01	3.62E+00				
14.0	3.06E+01	9.25E+00				
16.0	3.83E+01	1.48E+01				
18.0	4.24E+01	2.34E+01	3.17E-04			
20.0	4.50E+01	3.9[illegible]E+01	1.78E-02			
22.0	4.80E+01	6.24E+01	2.81E-01			
24.0	4.77E+01	8.47E+01	1.42E+00			
26.0	4.55E+01	1.04E+02	7.81E+00	2.20E-04		
28.0	4.40E+01	1.19E+02	1.74E+01	1.75E-02		
30.0	4.31E+01	1.32E+02	3.08E+01	2.44E-01		
32.0	4.18E+01	1.40E+02	4.56E+01	1.60E+00		
34.0	3.96E+01	1.40E+02	6.39E+01	5.38E+00	2.27E-06	
36.0	3.74E+01	1.35E+02	8.11E+01	1.29E+01	1.42E-03	
38.0	3.58E+01	1.31E+02	9.58E+01	2.64E+01	3.95E-02	
40.0	3.45E+01	1.28E+02	1.07E+02	3.92E+01	3.27E-01	
42.0	3.30E+01	1.24E+02	1.15E+02	5.27E+01	1.62E+00	1.54E-07
44.0	3.14E+01	1.23E+02	1.18E+02	6.51E+01	5.26E+00	1.86E-04
46.0	2.98E+01	1.19E+02	1.20E+02	7.55E+01	1.19E+01	7.98E-03
48.0	2.85E+01	1.16E+02	1.18E+02	8.52E+01	2.08E+01	8.82E-02
50.0	2.73E+01	1.13E+02	1.14E+02	9.95E+01	2.74E+01	3.56E-01

Таблица 42

Расчетные функции возбуждения реакции $^{129}I(n,2pxn)Sb$

En	^{128}Sb	^{127}Sb	^{126}Sb	^{125}Sb	^{124}Sb	^{123}Sb
6.0			5.20E-04			
8.0			8.42E-03			
10.0			3.14E-02			
12.0			8.06E-02			
14.0			1.61E-01	2.36E-02		
16.0	2.88E-01		1.92E-01	1.64E-01		
18.0	7.92E-01		1.31E-01	5.03E-01		
20.0	1.39E+00		5.56E-02	9.51E-01		
22.0	2.30E+00	1.69E-10	1.75E-02	1.35E+00	1.64E-03	
24.0	3.11E+00	2.77E-08	5.09E-03	1.75E+00	5.13E-02	
26.0	3.99E+00	3.24E-06	1.44E-03	1.95E+00	3.83E-01	
28.0	5.08E+00	7.33E-05	3.54E-04	1.55E+00	1.22E+00	7.30E-05
30.0	6.25E+00	6.74E-04	1.01E-04	1.00E+00	2.37E+00	8.21E-03
32.0	7.52E+00	2.97E-03	5.62E-05	6.40E-01	3.26E+00	9.24E-02
34.0	8.69E+00	8.58E-03	2.76E-05	3.73E-01	3.76E+00	4.16E-01
36.0	9.82E+00	2.62E-02	1.64E-04	2.16E-01	3.57E+00	1.39E+00
38.0	1.10E+01	1.88E-01	1.91E-03	1.38E-01	2.82E+00	2.88E+00
40.0	1.19E+01	7.55E-01	8.68E-03	1.04E-01	1.98E+00	4.39E+00
42.0	1.22E+01	1.73E+00	2.52E-02	8.62E-02	1.33E+00	5.56E+00
44.0	1.23E+01	2.98E+00	5.57E-02	7.66E-02	8.11E-01	6.54E+00
46.0	1.22E+01	4.34E+00	1.00E-01	7.36E-02	6.07E-01	6.99E+00
48.0	1.21E+01	5.77E+00	1.52E-01	8.21E-02	5.81E-01	6.43E+00
50.0	1.20E+01	7.24E+00	2.03E-01	1.02E-01	4.85E-01	5.59E+00

Таблица 43

Расчетные функции возбуждения реакции $^{129}I(n,3pxn)Sn$

En	^{127}Sn	^{126}Sn	^{125}Sn	^{124}Sn	^{123}Sn	^{122}Sn
18.0			4.90E-09			
20.0			3.51E-07			
22.0			4.36E-06	3.60E-11		
24.0			2.73E-05	5.20E-09		
26.0			9.18E-05	7.50E-07		
28.0			2.45E-04	1.65E-05		
30.0			5.16E-04	1.58E-04	5.51E-09	
32.0	1.73E-12		8.38E-04	7.40E-04	4.42E-07	
34.0	1.03E-10		1.13E-03	2.58E-03	9 39E-06	
36.0	2.12E-09	2.71E-13	1.41E-03	6.57E-03	8.23E-05	
38.0	2.50E-08	5.54E-11	1.51E-03	1.46E-02	8.68E-04	1.21E-08
40.0	1.06E-07	2.13E-09	1.31E-03	2.12E-02	3.93E-03	8.94E-07
42.0	2.99E-07	3.42E-08	1.28E-03	2.99E-02	8.66E-03	1.02E-05
44.0	6.88E-07	2.87E-07	1.24E-03	3.54E-02	2.29E-02	1.27E-04
46.0	1.27E-06	1.49E-06	1.19E-03	3.92E-02	4.57E-02	9.59E-04
48.0	1.69E-06	4.81E-06	1.14E-03	4.07E-02	7.42E-02	4.62E-03
50.0	2.90E-06	1.40E-05	1.19E-03	4.28E-02	1.04E-01	1.18E-02

Таблица 44

Расчетные функции возбуждения реакции $^{135}Cs(n,xn)Cs$

En	^{135}Cs	^{134}Cs	^{133}Cs	^{132}Cs	^{131}Cs	^{130}Cs
2.0	2.89E+00					
4.0	2.51E+00					
6.0	2.31E+00					
8.0	2.28E+00					
10.0	1.48E+00	6.56E-01				
12.0	4.13E-01	1.62E+00				
14.0	1.74E-01	1.82E+00				
16.0	1.20E-01	1.81E+00				
18.0	1.03E-01	1.37E+00	1.84E-01			
20.0	9.62E-02	7.06E-01	8.00E-01			
22.0	9.42E-02	3.43E-01	1.19E+00			
24.0	8.81E-02	1.97E-01	1.37E+00			
26.0	8.30E-02	1.38E-01	1.35E+00	6.45E-04		
28.0	8.05E-02	1.14E-01	1.20E+00	6.75E-02		
30.0	7.84E-02	1.02E-01	8.74E-01	3.08E-01		
32.0	7.50E-02	9.43E-02	5.64E-01	5.79E-01		
34.0	7.11E-02	8.76E-02	3.59E-01	7.55E-01	2.29E-04	
36.0	7.37E-02	8.29E-02	2.64E-01	8.00E-01	7.19E-03	
38.0	7.15E-02	7.86E-02	1.92E-01	7.79E-01	6.39E-02	
40.0	6.91E-02	7.48E-02	1.54E-01	6.24E-01	2.32E-01	
42.0	6.60E-02	7.08E-02	1.31E-01	4.60E-01	3.72E-01	
44.0	6.32E-02	6.72E-02	1.17E-01	3.25E-01	4.75E-01	1.40E-04
46.0	6.08E-02	6.41E-02	1.06E-01	2.32E-01	5.26E-01	4.11E-03
48.0	5.88E-02	6.12E-02	9.89E-02	1.73E-01	5.21E-01	2.52E-02
50.0	5.67E-02	5.88E-02	9.25E-02	1.37E-01	4.88E-01	5.49E-02

Таблица 45

Расчетные функции возбуждения реакции $^{135}Cs(n,pxn)Xe$

En	^{135}Xe	^{134}Xe	^{133}Xe	^{132}Xe	^{131}Xe	^{130}Xe
6.0	8.59E-04					
8.0	4.85E-03					
10.0	1.47E-02	8.48E-09				
12.0	3.26E-02	5.22E-03				
14.0	5.11E-02	8.09E-03				
16.0	7.15E-02	1.60E-02				
18.0	8.47E-02	2.60E-02	1.77E-07			
20.0	9.21E-02	5.04E-02	1.30E-05			
22.0	9.93E-02	8.33E-02	3.84E-04			
24.0	9.69E-02	1.15E-01	3.36E-03			
26.0	9.49E-02	1.44E-01	1.18E-02	5.64E-07		
28.0	9.57E-02	1.69E-01	2.66E-02	3.62E-05		
30.0	9.53E-02	1.89E-01	4.65E-02	5.79E-04		
32.0	9.15E-02	2.01E-01	6.77E-02	3.65E-03		
34.0	8.74E-02	2.08E-01	8.53E-02	1.17E-02	1.04E-07	
36.0	8.44E-02	2.08E-01	1.04E-01	2.49E-02	8.58E-06	
38.0	8.28E-02	2.06E-01	1.22E-01	4.25E-02	1.46E-04	
40.0	8.04E-02	2.02E-01	1.36E-01	6.29E-02	1.07E-03	
42.0	7.68E-02	1.97E-01	1.46E-01	8.33E-02	4.39E-03	4.33E-08
44.0	7.36E-02	1.92E-01	1.54E-01	1.01E-01	1.18E-02	3.98E-06
46.0	7.11E-02	1.87E-01	1.59E-01	1.14E-01	2.37E-02	6.84E-05
48.0	6.87E-02	1.83E-01	1.62E-01	1.24E-01	3.87E-02	5.07E-04
50.0	6.63E-02	1.79E-01	1.61E-01	1.32E-01	5.40E-02	7.21E-02

Таблица 46

Расчетные функции возбуждения реакции $^{135}Cs(n,2pxn)I$

En	^{134}I	^{133}I	^{132}I	^{131}I	^{130}I	^{129}I
6.0			2.51E-07			
8.0			4.76E-06			
10.0			2.01E-05			
12.0			5.74E-05	6.20E-08		
14.0			1.09E-04	1.35E-05		
16.0	1.24E-03		1.65E-04	7.31E-05		
18.0	3.49E-03		1.31E-04	3.06E-04		
20.0	5.86E-03		5.71E-05	6.75E-04		
22.0	9.53E-03		2.02E-05	1.13E-03	4.61E-07	
24.0	1.21E-02		5.99E-06	1.57E-03	2.41E-05	
26.0	1.62E-02	3.49E-09	1.71E-06	1.82E-03	2.86E-04	
28.0	2.12E-02	8.82E-08	4.26E-07	1.51E-03	1.02E-03	3.80E-09
30.0	2.56E-02	7.86E-07	1.22E-07	9.51E-04	2.08E-03	2.19E-06
32.0	3.02E-02	3.46E-06	3.58E-08	5.02E-04	3.06E-03	4.49E-05
34.0	3.50E-02	9.87E-06	1.73E-08	2.42E-04	3.52E-03	4.96E-04
36.0	3.99E-02	2.53E-05	1.30E-07	1.27E-04	3.34E-03	1.45E-03
38.0	4.57E-02	2.23E-04	1.14E-06	7.01E-05	2.60E-03	3.05E-03
40.0	5.03E-02	1.36E-03	6.23E-06	4.29E-05	1.65E-03	4.53E-03
42.0	5.32E-02	3.21E-03	2.28E-05	3.16E-05	9.99E-04	5.83E-03
44.0	5.51E-02	6.79E-03	5.39E-05	2.39E-05	5.66E-04	6.51E-03
46.0	5.64E-02	1.13E-02	1.01E-04	2.49E-05	3.51E-04	6.69E-03
48.0	5.72E-02	1.62E-02	1.61E-04	3.71E-05	2.33E-04	6.06E-03
50.0	5.76E-02	2.14E-02	2.22E-04	6.99E-05	1.51E-04	4.56E-03

Таблица 47

Расчетные функции возбуждения реакции $^{135}Cs(n,3pxn)Te$

En	^{131}Te	^{130}Te	^{129}Te	^{128}Te
20.0	1.69E-10			
22.0	2.56E-09			
24.0	1.85E-08			
26.0	8.07E-08	4.01E-10		
28.0	2.31E-07	1.10E-08		
30.0	5.31E-07	1.21E-07		
32.0	9.22E-07	6.78E-07		
34.0	1.12E-06	2.16E-06	1.71E-09	
36.0	1.36E-06	5.47E-06	3.17E-08	
38.0	1.63E-06	1.17E-05	3.24E-07	
40.0	1.71E-06	2.00E-05	1.92E-06	
42.0	1.74E-06	2.92E-05	7.31E-06	7.01E-09
44.0	1.74E-06	3.75E-06	1.95E-05	8.67E-08
46.0	1.72E-06	4.33E-05	4.01E-05	6.98E-07
48.0	1.48E-06	4.36E-05	6.62E-05	3.71E-06
50.0	1.45E-06	4.42E-05	9.27E-05	1.37E-05

Таблица 48

Расчетные функции возбуждения реакции $^{147}Sm(n,xn)Sm$

En	^{147}Sm	^{146}Sm	^{145}Sm	^{144}Sm	^{143}Sm
2.0	2.89E+03				
4.0	2.47E+03				
6.0	2.46E+03				
8.0	7.76E+02	4.24E+02			
10.0	2.35E+02	1.74E+03			
12.0	1.69E+02	1.92E+03			
14.0	1.41E+02	1.92E+03			
16.0	1.27E+02	1.53E+03	2.74E+01		
18.0	1.20E+02	7.98E+02	6.09E+02		
20.0	1.17E+02	4.62E+02	1.21E+03		
22.0	1.08E+02	3.26E+02	1.36E+03		
24.0	1.00E+02	2.65E+02	1.29E+03	9.85E+00	
26.0	9.69E+01	2.35E+02	9.63E+02	1.93E+02	
28.0	9.32E+01	2.16E+02	6.53E+02	5.00E+02	
30.0	8.68E+01	2.00E+02	4.61E+02	7.26E+02	
32.0	8.14E+01	1.88E+02	3.54E+02	8.92E+02	
34.0	7.77E+01	1.77E+02	2.93E+02	9.30E+02	3.43E-01
36.0	7.46E+01	1.69E+02	2.57E+02	9.09E+02	1.92E+01
38.0	8.02E+01	1.62E+02	2.35E+02	8.27E+02	7.02E+01
40.0	7.56E+01	1.53E+02	2.13E+02	6.95E+02	1.80E+02
42.0	7.19E+01	1.45E+02	1.96E+02	5.49E+02	2.95E+02
44.0	6.89E+01	1.38E+02	1.84E+02	4.50E+02	3.84E+02
46.0	6.60E+01	1.32E+02	1.73E+02	3.82E+02	4.40E+02
48.0	6.28E+01	1.27E+02	1.63E+02	3.35E+02	4.51E+02
50.0	5.99E+01	1.22E+02	1.54E+02	3.01E+02	4.23E+02

Таблица 49

Расчетные функции возбуждения реакции $^{147}Sm(n,pxn)Pm$

En	^{147}Pm	^{146}Pm	^{145}Pm	^{144}Pm	^{143}Pm	^{142}Pm
4.0	4.32E-02					
6.0	7.12E-01					
8.0	3.21E+00					
10.0	8.35E+00	1.36E-05				
12.0	2.09E+01	3.61E+00				
14.0	3.22E+01	7.60E+00				
16.0	4.54E+01	1.51E+01	3.55E-05			
18.0	5.44E+01	2.25E+01	7.38E-03			
20.0	6.12E+01	3.37E+01	1.54E-01			
22.0	6.28E+01	5.38E+01	1.35E+00			
24.0	6.24E+01	7.43E+01	5.43E+00	1.82E-05		
26.0	6.29E+01	9.33E+01	1.38E+01	4.89E-03		
28.0	6.28E+01	1.07E+02	2.75E+01	1.11E-01		
30.0	6.04E+01	1.13E+02	4.78E+01	9.37E-01		
32.0	5.75E+01	1.12E+02	7.09E+01	3.98E+00	1.36E-04	
34.0	5.56E+01	1.11E+02	9.19E+01	1.04E+01	1.28E+00	
36.0	5.43E+01	1.09E+02	1.10E+02	2.01E+01	1.64E+01	
38.0	5.22E+01	1.07E+02	1.25E+02	3.16E+01	3.23E+01	
40.0	4.95E+01	1.04E+02	1.35E+02	4.43E+01	4.62E+01	
42.0	4.73E+01	1.03E+02	1.41E+02	5.56E+01	5.16E+01	3.80E-05
44.0	4.56E+01	1.01E+02	1.46E+02	6.51E+01	5.45E+01	3.13E-03
46.0	4.87E+01	9.86E+01	1.46E+02	7.43E+01	5.55E+01	5.29E-02
48.0	4.67E+01	9.63E+01	1.43E+02	8.65E+01	6.13E+01	4.03E-01
50.0	4.47E+01	9.39E+01	1.39E+02	9.75E+01	6.92E+01	1.79E+00

Таблица 50

Расчетные функции возбуждения реакции $^{147}Sm(n,2pxn)Nd$

En	^{146}Nd	^{145}Nd	^{144}Nd	^{143}Nd	^{142}Nd	^{141}Nd
2.0			4.68E-02			
4.0			3.46E-01			
6.0			7.50E-01			
8.0			9.46E-01			
10.0	2.79E-02		1.28E+00	1.67E-01		
12.0	1.66E-01		1.54E+00	1.16E+00		
14.0	3.26E-01		1.18E+00	3.38E+00		
16.0	7.58E-01		4.75E-01	5.99E+00		
18.0	1.19E+00		1.34E-01	7.86E+00	2.35E-01	
20.0	1.95E+00	6.01E-09	3.34E-02	7.84E+00	1.86E+00	
22.0	2.53E+00	6.60E-07	6.96E-03	5.09E+00	5.55E+00	
24.0	3.42E+00	3.05E-05	1.80E-03	2.80E+00	1.17E+01	
26.0	4.60E+00	3.77E-04	4.37E-04	1.33E+00	1.74E+01	9.04E-03
28.0	5.69E+00	1.89E-03	1.10E-04	6.49E-01	2.14E+01	2.32E-01
30.0	6.76E+00	6.28E-03	5.02E-05	3.81E-01	2.33E+01	1.50E+00
32.0	7.90E+00	1.46E-02	3.36E-04	2.74E-01	2.25E+01	5.45E+00
34.0	9.20E+00	2.62E-02	2.33E-03	2.28E-01	1.84E+01	1.24E+01
36.0	1.06E+01	5.88E-02	9.98E-03	2.04E-01	1.33E+01	2.01E+01
38.0	1.18E+01	2.63E-01	2.99E-02	1.63E-01	9.23E+00	2.48E+01
40.0	1.24E+01	8.35E-01	6.59E-02	1.71E-01	6.73E+00	2.97E+01
42.0	1.28E+01	1.78E+00	1.15E-01	1.64E-01	5.01E+00	3.08E+01
44.0	1.31E+01	2.98E+00	1.76E-01	1.70E-01	4.02E+00	2.85E+01
46.0	1.32E+01	4.30E+00	2.17E-01	1.89E-01	3.14E+00	2.24E+01
48.0	1.31E+01	5.60E+00	2.82E-01	2.43E-01	2.96E+00	1.78E+01
50.0	1.30E+01	6.87E+00	3.48E-01	3.13E-01	3.14E+00	1.40E+01

Таблица 51

Расчетные функции возбуждения реакции $^{147}Sm(n,3pxn)Pr$

En	^{145}Pr	^{144}Pr	^{143}Pr	^{142}Pr	^{141}Pr	^{140}Pr
14.0			7.88E-07			
16.0			1.14E-05			
18.0			6.60E-05	1.17E-11		
20.0			2.02E-04	7.09E-08		
22.0			1.07E-03	4.63E-06		
24.0			2.94E-03	1.69E-04	1.75E-09	
26.0	9.43E-15		6.07E-03	1.31E-03	6.70E-07	
28.0	4.95E-12		1.06E-02	5.85E-03	2.64E-05	
30.0	1.76E-10		1.34E-02	1.64E-02	1.72E-04	
32.0	1.76E-09	3.98E-14	1.65E-02	3.64E-02	1.63E-03	
34.0	1.32E-08	8.94E-12	1.85E-02	6.60E-02	8.91E-03	4.17E-10
36.0	5.79E-08	5.35E-10	1.95E-02	1.00E-01	3.17E-02	3.11E-07
38.0	2.17E-07	1.28E-08	2.19E-02	1.41E-01	8.21E-02	1.27E-05
40.0	6.02E-07	1.26E-07	2.17E-02	1.60E-01	1.68E-01	2.05E-04
42.0	1.25E-06	7.02E-07	2.12E-02	1.80E-01	3.05E-01	1.97E-03
44.0	2.32E-06	2.80E-06	2.05E-02	1.88E-01	4.95E-01	1.34E-02
46.0	3.31E-06	5.18E-06	1.68E-02	1.79E-01	6.06E-01	3.60E-02
48.0	4.97E-06	1.34E-05	1.62E-02	1.83E-01	7.78E-01	1.13E-01
50.0	7.70E-06	2.90E-05	1.56E-02	1.85E-01	9.25E-01	2.62E-01

Таблица 52

Расчетные функции возбуждения реакции $^{148}Sm(n,xn)Sm$

En	^{148}Sm	^{147}Sm	^{146}Sm	^{145}Sm	^{144}Sm
2.0	2.90E+03				
4.0	2.49E+03				
6.0	2.49E+03				
8.0	2.39E+03				
10.0	8.89E+02	1.34E+03			
12.0	2.73E+02	1.92E+03			
14.0	1.52E+02	1.98E+03			
16.0	1.22E+02	1.52E+03	3.61E+01		
18.0	1.11E+02	9.01E+02	5.07E+02		
20.0	1.08E+02	4.38E+02	1.17E+03		
22.0	9.92E+01	2.58E+02	1.45E+03		
24.0	9.29E+01	1.90E+02	1.52E+03	2.26E+00	
26.0	9.11E+01	1.62E+02	1.26E+03	1.67E+02	
28.0	8.80E+01	1.48E+02	8.47E+02	5.56E+02	
30.0	8.29E+01	1.37E+02	5.36E+02	8.77E+02	
32.0	7.82E+01	1.28E+02	3.55E+02	1.05E+03	1.06E-01
34.0	7.54E+01	1.21E+02	2.59E+02	1.06E+03	2.23E+01
36.0	7.31E+01	1.17E+02	2.37E+02	9.27E+02	1.00E+02
38.0	7.72E+01	1.13E+02	2.08E+02	7.64E+02	2.29E+02
40.0	7.31E+01	1.08E+02	1.83E+02	5.66E+02	4.27E+02
42.0	6.99E+01	1.03E+02	1.66E+02	4.15E+02	5.90E+02
44.0	6.75E+01	9.94E+01	1.55E+02	3.13E+02	7.00E+02
46.0	6.50E+01	9.58E+01	1.46E+02	2.49E+02	7.56E+02
48.0	6.23E+01	9.21E+01	1.38E+02	2.20E+02	7.36E+02
50.0	5.96E+01	8.91E+01	1.23E+02	1.88E+02	6.82E+02

Таблица 53

Расчетные функции возбуждения реакции $^{148}Sm(n,pxn)Pm$

En	^{148}Pm	^{147}Pm	^{146}Pm	^{145}Pm	^{144}Pm	^{143}Pm
6.0	1.26E-02					
8.0	3.83E-01					
10.0	2.13E+00	1.12E-06				
12.0	5.97E+00	5.09E-04				
14.0	1.19E+01	2.33E+00				
16.0	2.10E+01	5.67E+00				
18.0	2.82E+01	8.67E+00	2.90E-05			
20.0	3.46E+01	1.49E+01	4.44E-03			
22.0	3.62E+01	2.76E+01	1.66E-01			
24.0	3.71E+01	4.20E+01	1.31E+00	2.64E-06		
26.0	3.88E+01	5.56E+01	3.50E+00	1.98E-03		
28.0	3.92E+01	6.80E+01	9.39E+00	4.58E-02		
30.0	3.82E+01	7.68E+01	1.87E+01	4.03E-01		
32.0	3.70E+01	8.30E+01	2.98E+01	2.07E+00	1.10E-06	
34.0	3.63E+01	8.48E+01	4.36E+01	6.33E+00	5.47E-04	
36.0	3.59E+01	8.52E+01	5.63E+01	1.15E+01	1.10E-02	
38.0	3.49E+01	8.41E+01	6.65E+01	2.36E+01	1.75E-01	
40.0	3.34E+01	8.21E+01	7.35E+01	3.53E+01	9.34E-01	2.16E-06
42.0	3.22E+01	8.07E+01	7.86E+01	4.72E+01	2.45E+00	2.28E-04
44.0	3.13E+01	8.04E+01	8.19E+01	5.77E+01	6.69E+00	1.00E-02
46.0	3.04E+01	7.91E+01	8.35E+01	6.69E+01	1.38E+01	1.42E-01
48.0	2.93E+01	7.73E+01	8.18E+01	7.68E+01	2.55E+01	7.76E-01
50.0	2.82E+01	7.57E+01	7.89E+01	8.44E+01	3.61E+01	2.85E+00

Таблица 54

Расчетные функции возбуждения реакции $^{148}Sm(n,2pxn)Nd$

En	^{147}Nd	^{146}Nd	^{145}Nd	^{144}Nd	^{143}Nd	^{142}Nd
4.0			3.48E-02			
6.0			1.65E-01			
8.0			3.33E-01			
10.0			4.95E-01	5.37E-03		
12.0			6.72E-01	2.85E-01		
14.0	4.13E-02		5.15E-01	1.12E+00		
16.0	1.64E-01		2.38E-01	2.59E+00		
18.0	3.15E-01		7.12E-02	4.22E+00	4.60E-02	
20.0	6.25E-01		1.82E-02	5.55E+00	6.00E-01	
22.0	8.68E-01	7.82E-09	4.78E-03	6.17E+00	2.74E+00	
24.0	1.29E+00	5.33E-07	1.14E-03	4.55E+00	6.88E+00	2.89E-04
26.0	1.86E+00	1.42E-05	2.80E-04	2.46E+00	1.14E+01	7.26E-02
28.0	2.33E+00	1.65E-04	6.05E-05	1.07E+00	1.40E+01	7.60E-01
30.0	2.87E+00	8.92E-04	1.61E-05	4.98E-01	1.42E+01	3.44E+00
32.0	3.48E+00	3.06E-03	2.06E-05	2.55E-01	1.12E+01	9.12E+00
34.0	4.09E+00	8.00E-03	1.91E-04	2.27E-01	8.74E+00	1.54E+01
36.0	4.73E+00	3.51E-02	1.29E-03	1.68E-01	5.05E+00	2.31E+01
38.0	5.12E+00	1.76E-01	4.17E-03	1.49E-01	3.34E+00	2.80E+01
40.0	5.24E+00	5.11E-01	1.30E-02	1.34E-01	2.14E+00	3.15E+01
42.0	5.39E+00	1.04E+00	3.03E-02	1.25E-01	1.52E+00	3.22E+01
44.0	5.52E+00	1.69E+00	5.68E-02	1.21E-01	1.18E+00	3.06E+01
46.0	5.69E+00	2.60E+00	9.50E-02	1.11E-01	9.06E-01	2.44E+01
48.0	5.70E+00	3.35E+00	1.36E-01	1.45E-01	8.56E-01	1.98E+01
50.0	5.69E+00	4.11E+00	1.73E-01	1.96E-01	7.99E-01	1.52E+01

Таблица 55

Расчетные функции возбуждения реакции $^{148}Sm(n,3pxn)Pr$

En	^{146}Pr	^{145}Pr	^{144}Pr	^{143}Pr	^{142}Pr	^{141}Pr
16.0			2.79E-08			
18.0			2.56E-06			
20.0			2.15E-05	5.28E-09		
22.0			1.48E-04	4.99E-07		
24.0			5.48E-04	1.68E-05		
26.0			1.66E-03	1.85E-04		
28.0			3.68E-03	1.17E-03	7.25E-08	
30.0	2.32E-15		6.47E-03	4.66E-03	3.47E-06	
32.0	1.48E-12		9.29E-03	1.36E-02	6.78E-05	6.05E-14
34.0	6.00E-11	3.25E-14	9.95E-03	2.76E-02	5.74E-04	4.41E-08
36.0	8.50E-10	3.55E-12	1.11E-02	5.05E-02	3.76E-03	3.62E-06
38.0	7.47E-09	1.13E-10	1.17E-02	7.94E-02	1.48E-02	8.25E-05
40.0	3.13E-08	2.31E-09	1.33E-02	1.14E-01	3.94E-02	6.50E-04
42.0	1.08E-07	2.58E-08	1.33E-02	1.38E-01	8.73E-02	4.08E-03
44.0	2.89E-07	1.75E-07	1.32E-02	1.55E-01	1.57E-01	1.68E-02
46.0	6.71E-07	1.02E-06	1.30E-02	1.68E-01	2.46E-01	5.45E-02
48.0	1.18E-06	3.98E-06	1.27E-02	1.73E-01	3.53E-01	1.57E-01
50.0	1.60E-06	9.35E-06	1.06E-02	1.61E-01	3.95E-01	3.05E-01

Таблица 56

Расчетные функции возбуждения реакции $^{151}Sm(n,xn)Sm$

En	^{151}Sm	^{150}Sm	^{149}Sm	^{148}Sm	^{147}Sm
2.0	2.84E+03				
4.0	2.47E+03				
6.0	2.51E+03				
8.0	4.68E+02	1.62E+03			
10.0	1.80E+02	2.02E+03			
12.0	1.41E+02	2.04E+03			
14.0	1.18E+02	1.95E+03	4.53E+01		
16.0	1.08E+02	1.13E+03	7.94E+02		
18.0	1.05E+02	5.81E+02	1.30E+03		
20.0	1.01E+02	3.72E+02	1.48E+03		
22.0	9.12E+01	2.84E+02	1.30E+03	5.45E+01	
24.0	8.60E+01	2.43E+02	8.58E+02	3.91E+02	
26.0	8.37E+01	2.41E+02	6.11E+02	6.51E+02	
28.0	7.93E+01	2.24E+02	4.60E+02	8.15E+02	
30.0	7.37E+01	2.09E+02	3.36E+02	9.66E+02	9.92E-01
32.0	6.92E+01	1.95E+02	2.70E+02	9.91E+02	4.31E+01
34.0	6.62E+01	1.85E+02	2.33E+02	8.76E+02	1.84E+02
36.0	6.31E+01	1.77E+02	2.09E+02	7.00E+02	3.65E+02
38.0	5.96E+01	1.67E+02	1.91E+02	5.41E+02	5.15E+02
40.0	6.46E+01	1.53E+02	1.77E+02	4.46E+02	5.64E+02
42.0	6.15E+01	1.46E+02	1.65E+02	3.64E+02	5.70E+02
44.0	5.88E+01	1.39E+02	1.55E+02	3.11E+02	5.13E+02
46.0	5.60E+01	1.33E+02	1.47E+02	2.96E+02	4.45E+02
48.0	5.33E+01	1.28E+02	1.39E+02	2.66E+02	3.70E+02
50.0	5.07E+01	1.23E+02	1.32E+02	2.42E+02	3.09E+02

Таблица 57

Расчетные функции возбуждения реакции $^{151}Sm(n,pxn)Pm$

En	^{151}Pm	^{150}Pm	^{149}Pm	^{148}Pm	^{147}Pm	^{146}Pm
6.0	1.73E-01					
8.0	1.49E+00					
10.0	5.06E+00					
12.0	1.39E+01	2.23E-05				
14.0	2.35E+01	5.06E+00				
16.0	3.91E+01	1.14E+01	3.38E-08			
18.0	5.21E+01	1.77E+01	5.37E-04			
20.0	6.18E+01	2.71E+01	2.36E-02			
22.0	6.34E+01	3.46E+01	2.53E-01			
24.0	6.45E+01	5.51E+01	1.86E+00	7.08E-06		
26.0	6.63E+01	7.51E+01	6.98E+00	8.55E-04		
28.0	6.57E+01	8.97E+01	1.77E+01	3.21E-02		
30.0	6.33E+01	9.98E+01	3.16E+01	6.12E-01	1.53E-06	
32.0	6.08E+01	1.01E+02	5.25E+01	2.84E+00	7.91E-04	
34.0	5.93E+01	1.02E+02	7.27E+01	7.93E+00	1.13E-02	
36.0	5.79E+01	1.01E+02	9.09E+01	1.58E+01	1.45E-01	
38.0	5.56E+01	9.86E+01	1.05E+02	2.55E+01	8.79E-01	2.33E-11
40.0	5.30E+01	9.60E+01	1.16E+02	3.59E+01	3.13E+00	2.88E-05
42.0	5.08E+01	9.40E+01	1.24E+02	4.57E+01	7.94E+00	2.22E-03
44.0	4.92E+01	9.25E+01	1.29E+02	5.57E+01	1.52E+01	3.56E-02
46.0	4.74E+01	9.07E+01	1.29E+02	6.71E+01	2.42E+01	2.53E-01
48.0	4.54E+01	8.87E+01	1.26E+02	7.90E+01	3.39E+01	1.10E+00
50.0	4.35E+01	8.66E+01	1.22E+02	8.95E+01	4.32E+01	3.27E+00

Таблица 58

Расчетные функции возбуждения реакции $^{151}Sm(n,2pxn)Nd$

En	^{150}Nd	^{149}Nd	^{148}Nd	^{147}Nd	^{146}Nd	^{145}Nd
4.0			6.55E-03			
6.0			3.23E-02			
8.0			7.00E-02			
10.0			1.36E-01	5.48E-03		
12.0			2.21E-01	9.89E-02		
14.0	1.42E-01		2.34E-01	4.11E-01		
16.0	4.25E-01		1.29E-01	9.17E-01	1.59E-04	
18.0	7.88E-01		4.28E-02	1.37E+00	4.93E-02	
20.0	1.43E+00		9.73E-03	1.31E+00	3.53E-01	
22.0	1.95E+00	6.01E-11	2.39E-03	9.21E-01	1.22E+00	
24.0	2.81E+00	3.89E-08	6.22E-04	4.79E-01	2.88E+00	1.82E-03
26.0	3.91E+00	2.98E-06	1.51E-04	1.98E-01	4.10E+00	5.38E-02
28.0	4.84E+00	4.55E-05	3.76E-05	8.11E-02	4.89E+00	4.31E-01
30.0	5.84E+00	2.96E-04	9.59E-06	3.85E-02	4.68E+00	1.64E+00
32.0	6.97E+00	1.11E-03	6.19E-06	2.07E-02	3.57E+00	3.65E+00
34.0	8.24E+00	2.84E-03	5.70E-05	1.54E-02	2.31E+00	5.64E+00
36.0	9.58E+00	6.89E-03	4.94E-04	1.34E-02	1.58E+00	6.95E+00
38.0	1.08E+01	4.85E-02	2.88E-03	1.20E-02	9.91E-01	7.18E+00
40.0	1.17E+01	3.06E-01	7.66E-03	1.24E-02	7.35E-01	6.58E+00
42.0	1.24E+01	9.65E-01	1.64E-02	1.20E-02	5.61E-01	5.27E+00
44.0	1.28E+01	1.97E+00	2.92E-02	1.35E-02	4.40E-01	3.77E+00
46.0	1.30E+01	3.17E+00	4.24E-02	1.75E-02	3.53E-01	2.68E+00
48.0	1.33E+01	4.14E+00	5.63E-02	2.99E-02	3.16E-01	2.03E+00
50.0	1.32E+01	5.40E+00	9.72E-02	5.01E-02	2.90E-01	1.61E+00

Таблица 59

Расчетные функции возбуждения реакции $^{151}Sm(n,3pxn)Pr$

En	^{149}Pr	^{148}Pr	^{147}Pr	^{146}Pr	^{145}Pr	^{144}Pr
16.0			1.27E-09			
18.0			1.15E-07			
20.0			1.04E-06			
22.0			5.63E-06	1.86E-09		
24.0			4.08E-05	2.27E-07		
26.0			1.52E-04	6.88E-06	1.85E-11	
28.0			4.38E-04	7.79E-05	1.77E-08	
30.0	2.09E-15		8.27E-04	4.33E-04	1.86E-06	
32.0	4.27E-13		1.42E-03	1.59E-03	3.24E-05	
34.0	1.27E-11		1.99E-03	4.07E-03	2.64E-04	6.46E-10
36.0	1.67E-10	1.01E-15	2.67E-03	8.84E-03	1.40E-03	1.19E-07
38.0	1.16E-09	1.23E-12	2.95E-03	1.37E-02	5.83E-03	4.20E-06
40.0	5.33E-09	8.19E-11	3.08E-03	1.87E-02	1.52E-02	5.85E-05
42.0	2.04E-08	1.70E-09	3.09E-03	2.24E-02	3.12E-02	7.68E-04
44.0	5.55E-08	1.05E-08	2.62E-03	2.33E-02	5.24E-02	3.74E-03
46.0	1.57E-07	7.36E-08	2.56E-03	2.47E-02	7.80E-02	1.28E-02
48.0	3.19E-07	2.58E-07	2.49E-03	2.90E-02	9.86E-02	2.75E-02
50.0	5.30E-07	8.64E-07	2.40E-03	2.95E-02	1.21E-01	5.95E-02

Таблица 60

Расчетные функции возбуждения реакции ^{158}Tb(n,xn)Tb

En	^{158}Tb	^{157}Tb	^{156}Tb	^{155}Tb	^{154}Tb
2.0	2.73E+03				
4.0	2.51E+03				
6.0	2.60E+03				
8.0	1.38E+03	1.04E+03			
10.0	4.00E+02	1.91E+03			
12.0	2.35E+02	2.02E+03			
14.0	1.81E+02	1.97E+03			
16.0	1.68E+02	1.90E+03			
18.0	1.62E+02	1.44E+03	4.41E+02		
20.0	1.52E+02	8.30E+02	1.01E+03		
22.0	1.40E+02	5.20E+02	1.27E+03		
24.0	1.35E+02	3.86E+02	1.35E+03	2.10E+00	
26.0	1.32E+02	3.27E+02	1.24E+03	1.37E+02	
28.0	1.24E+02	2.91E+02	9.27E+02	4.45E+02	
30.0	1.16E+02	2.65E+02	6.46E+02	7.02E+02	
32.0	1.12E+02	2.49E+02	4.69E+02	8.55E+02	
34.0	1.08E+02	2.35E+02	3.70E+02	9.27E+02	2.54E+00
36.0	1.03E+02	2.21E+02	3.11E+02	9.15E+02	4.64E+01
38.0	9.70E+01	2.08E+02	2.72E+02	8.08E+02	1.61E+02
40.0	1.00E+02	2.00E+02	2.32E+02	6.64E+02	3.03E+02
42.0	9.65E+01	1.91E+02	2.13E+02	5.34E+02	4.24E+02
44.0	9.28E+01	1.82E+02	1.98E+02	4.36E+02	4.92E+02
46.0	8.86E+01	1.75E+02	1.84E+02	3.70E+02	4.96E+02
48.0	8.46E+01	1.66E+02	1.72E+02	3.25E+02	4.52E+02
50.0	8.11E+01	1.59E+02	1.63E+02	2.93E+02	4.19E+02

Таблица 61

Расчетные функции возбуждения реакции ^{158}Tb(n,pxn)Gd

En	^{158}Gd	^{157}Gd	^{156}Gd	^{155}Gd	^{154}Gd	^{153}Gd
4.0	5.67E-02					
6.0	8.33E-01					
8.0	3.93E+00					
10.0	1.02E+01	3.35E-05				
12.0	2.20E+01	5.28E+00				
14.0	3.24E+01	9.11E+00				
16.0	4.59E+01	1.71E+01	1.93E-07			
18.0	5.33E+01	2.41E+01	1.19E-03			
20.0	5.65E+01	4.03E+01	1.40E-01			
22.0	5.58E+01	6.06E+01	1.33E+00			
24.0	5.68E+01	8.10E+01	5.23E+00	3.50E-06		
26.0	5.74E+01	9.80E+01	1.33E+01	1.90E-03		
28.0	5.52E+01	1.08E+02	2.66E+01	6.84E-02		
30.0	5.25E+01	1.09E+02	4.37E+01	7.61E-01		
32.0	5.12E+01	1.10E+02	6.61E+01	3.55E+00	5.49E-06	
34.0	5.02E+01	1.09E+02	8.76E+01	9.82E+00	1.84E-03	
36.0	4.82E+01	1.08E+02	1.04E+02	1,94E+01	9.76E-02	
38.0	4.56E+01	1.05E+02	1.19E+02	3.03E+01	7.73E-01	
40.0	4.37E+01	1.04E+02	1.30E+02	4.04E+01	3.03E+00	3.34E-06
42.0	4.23E+01	1.02E+02	1.40E+02	4.92E+01	8.26E+00	7.54E-04
44.0	4.57E+01	1.00E+02	1.45E+02	5.50E+01	1.46E+01	1.77E-02
46.0	4.37E+01	9.76E+01	1.47E+02	6.32E+01	2.45E+01	1.68E-01
48.0	4.17E+01	9.53E+01	1.45E+02	7.37E+01	3.55E+01	8.74E-01
50.0	4.01E+01	9.33E+01	1.41E+02	8.46E+01	4.58E+01	2.90E+00

Таблица 62

Расчетные функции возбуждения реакции ^{158}Tb(n,2pxn)Eu

En	^{157}Eu	^{156}Eu	^{155}Eu	^{154}Eu	^{153}Eu	^{152}Eu
4.0			2.02E-03			
6.0			9.71E-03			
8.0			1.88E-02			
10.0			3.96E-02			
12.0			7.45E-02	2.37E-03		
14.0	2.57E-01		1.28E-01	3.60E-02		
16.0	7.13E-01		1.44E-01	1.52E-01		
18.0	1.17E+00		8.94E-02	3.78E-01		
20.0	1.89E+00		3.53E-02	6.70E-01	1.68E-02	
22.0	2.50E+00	5.21E-10	9.92E-03	8.30E-01	1.38E-01	
24.0	3.58E+00	2.42E-07	2.55E-03	7.66E-01	5.11E-01	
26.0	4.73E+00	1.20E-05	6.43E-04	5.00E-01	9.74E-01	
28.0	5.62E+00	1.19E-04	1.43E-04	2.35E-01	1.55E+00	8.67E-05
30.0	6.73E+00	6.14E-04	3.66E-05	1.01E-01	2.02E+00	9.62E-03
32.0	8.02E+00	2.00E-03	2.04E-05	4.96E-02	2.48E+00	9.89E-02
34.0	9.45E+00	4.80E-03	1.59E-04	2.81E-02	2.59E+00	4.58E-01
36.0	1.07E+01	1.52E-02	1.10E-03	1.97E-02	2.36E+00	1.28E+00
38.0	1.18E+01	1.22E-01	4.34E-03	1.58E-02	1.75E+00	2.35E+00
40.0	1.28E+01	5.74E-01	1.24E-02	1.40E-02	1.22E+00	3.16E+00
42.0	1.34E+01	1.47E+00	2.67E-02	1.28E-02	7.97E-01	3.60E+00
44.0	1.40E+01	2.36E+00	3.74E-02	1.23E-02	5.76E-01	3.55E+00
46.0	1.40E+01	3.66E+00	5.89E-02	1.21E-02	3.99E-01	2.97E+00
48.0	1.39E+01	5.05E+00	8.92E-02	1.99E-02	3.38E-01	2.39E+00
50.0	1.38E+01	5.81E+00	1.22E-01	3.27E-02	2.88E-01	1.80E+00

Таблица 63

Расчетные функции возбуждения реакции ^{158}Tb(n,3pxn)Sm

En	^{156}Sm	^{155}Sm	^{154}Sm	^{153}Sm	^{152}Sm	^{151}Sm
16.0			9.67E-09			
18.0			2.50E-07			
20.0			2.26E-06			
22.0			1.01E-05	7.58E-10		
24.0			3.83E-05	2.24E-07		
26.0			1.09E-04	6.24E-06		
28.0			2.59E-04	5.70E-05	1.92E-10	
30.0	1.24E-13		5.07E-04	2.98E-04	3.56E-08	
32.0	6.37E-12		7.83E-04	8.45E-04	1.44E-06	
34.0	1.01E-10	3.62E-15	1.02E-03	2.24E-03	2.50E-05	
36.0	8.21E-10	1.04E-12	1.19E-03	4.68E-03	2.22E-04	2.19E-09
38.0	4.22E-09	6.85E-11	1.07E-03	7.03E-03	1.05E-03	2.02E-07
40.0	1.75E-08	1.58E-09	1.20E-03	1.04E-02	3.55E-03	4.33E-06
42.0	5.18E-08	1.59E-08	1.19E-03	1.27E-02	9.17E-03	5.23E-05
44.0	7.68E-08	4.10E-08	1.15E-03	1.36E-02	1.58E-02	2.39E-04
46.0	1.79E-07	2.12E-07	1.12E-03	1.44E-02	2.80E-02	1.23E-03
48.0	2.65E-07	6.53E-07	1.08E-03	1.47E-02	4.39E-02	4.82E-03
50.0	4.35E-07	1.66E-06	1.03E-03	1.46E-02	5.94E-02	1.37E-02

Таблица 64

Расчетные функции возбуждения реакции ^{166}Ho(n,xn)Ho

En	^{166}Ho	^{165}Ho	^{164}Ho	^{163}Ho	^{162}Ho
2.0	2.63E+03				
4.0	2.63E+03				
6.0	2.64E+03				
8.0	9.39E+02	1.52E+03			
10.0	3.30E+02	2.06E+03			
12.0	2.07E+02	2.11E+03			
14.0	1.69E+02	2.04E+03			
16.0	1.62E+02	1.68E+03	1.35E+02		
18.0	1.50E+02	9.64E+02	8.24E+02		
20.0	1.38E+02	5.66E+02	1.25E+03		
22.0	1.29E+02	3.99E+02	1.42E+03		
24.0	1.26E+02	3.29E+02	1.39E+03	8.96E+01	
26.0	1.20E+02	2.90E+02	1.08E+03	4.04E+02	
28.0	1.12E+02	2.61E+02	7.57E+02	7.18E+02	
30.0	1.06E+02	2.42E+02	5.36E+02	9.17E+02	
32.0	1.02E+02	2.28E+02	4.10E+02	1.02E+03	3.24E+00
34.0	9.77E+01	2.14E+02	3.36E+02	1.02E+03	5.52E+01
36.0	9.17E+01	2.02E+02	2.88E+02	8.99E+02	1.89E+02
38.0	8.69E+01	1.91E+02	2.56E+02	7.35E+02	3.54E+02
40.0	8.35E+01	1.82E+02	2.34E+02	5.86E+02	4.96E+02
42.0	8.77E+01	1.75E+02	2.19E+02	4.98E+02	5.51E+02
44.0	8.35E+01	1.67E+02	2.01E+02	4.02E+02	5.82E+02
46.0	7.93E+01	1.59E+02	1.88E+02	3.26E+02	5.24E+02
48.0	7.59E+01	1.52E+02	1.77E+02	2.91E+02	4.48E+02
50.0	7.30E+01	1.45E+02	1.68E+02	2.64E+02	3.79E+02

Таблица 65

Расчетные функции возбуждения реакции ^{166}Ho(n,pxn)Dy

En	^{166}Dy	^{165}Dy	^{164}Dy	^{163}Dy	^{162}Dy	^{161}Dy
6.0	8.29E-02					
8.0	9.27E-01					
10.0	3.55E+00	6.17E-07				
12.0	9.89E+00	2.05E+00				
14.0	1.90E+01	5.64E+00				
16.0	3.28E+01	1.22E+01	2.23E-08			
18.0	3.97E+01	1.72E+01	2.65E-04			
20.0	4.39E+01	2.53E+01	6.89E-03			
22.0	4.66E+01	4.20E+01	1.46E-01			
24.0	4.99E+01	6.22E+01	1.27E+00	3.55E-05		
26.0	5.00E+01	7.83E+01	5.62E+00	2.14E-03		
28.0	4.83E+01	8.94E+01	1.81E+01	6.07E-02		
30.0	4.74E+01	9.38E+01	3.52E+01	5.43E-01		
32.0	4.69E+01	9.70E+01	5.68E+01	2.61E+00	1.30E-04	
34.0	4.55E+01	9.63E+01	7.91E+01	5.79E+00	2.70E-03	
36.0	4.33E+01	9.42E+01	9.73E+01	1.30E+01	3.51E-02	
38.0	4.15E+01	9.25E+01	1.12E+02	2.29E+01	2.29E-01	
40.0	4.02E+01	9.14E+01	1.23E+02	3.43E+01	1.14E+00	2.75E-05
42.0	3.89E+01	9.17E+01	1.29E+02	4.48E+01	3.60E+00	8.86E-04
44.0	3.72E+01	9.08E+01	1.34E+02	5.52E+01	8.64E+00	1.66E-02
46.0	3.55E+01	8.86E+01	1.35E+02	6.68E+01	1.60E+01	8.44E-02
48.0	3.41E+01	8.69E+01	1.33E+02	7.87E+01	2.49E+01	4.15E-01
50.0	3.29E+01	8.55E+01	1.30E+02	9.04E+01	3.76E+01	1.94E+00

Таблица 66

Расчетные функции возбуждения реакции ^{166}Ho(n,2pxn)Tb

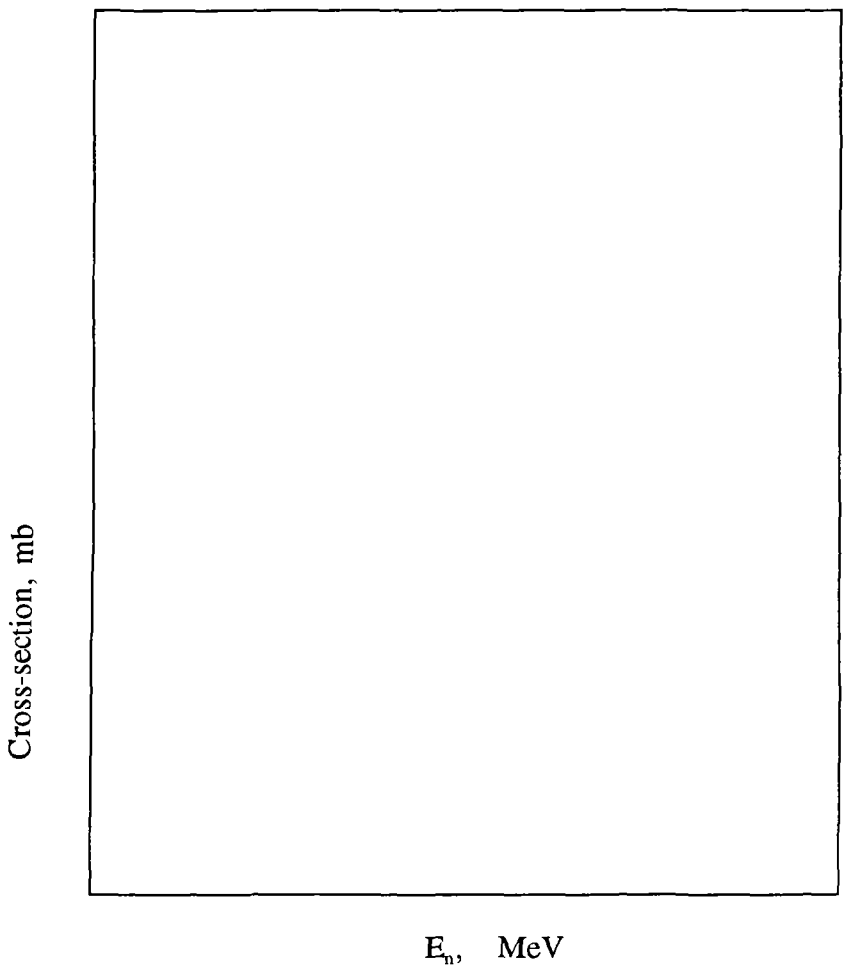
En	^{165}Tb	^{164}Tb	^{163}Tb	^{162}Tb	^{161}Tb	^{160}Tb
6.0			5.30E-04			
8.0			1.73E-03			
10.0			5.04E-03			
12.0			1.34E-02	5.38E-04		
14.0			2.61E-02	8.56E-03		
16.0	2.82E-01		3.32E-02	3.95E-02		
18.0	5.55E-01		2.54E-02	1.17E-01	9.83E-05	
20.0	1.09E+00		9.66E-03	2.08E-01	7.56E-03	
22.0	1.64E+00		2.36E-03	2.58E-01	3.60E-02	
24.0	2.55E+00	5.54E-11	5.93E-04	2.49E-01	1.44E-01	
26.0	3.29E+00	3.96E-09	1.45E-04	1.75E-01	3.67E-01	
28.0	4.18E+00	3.26E-07	3.50E-05	9.26E-02	6.38E-01	1.26E-03
30.0	5.31E+00	5.53E-06	8.59E-06	4.42E-02	8.85E-01	1.96E-02
32.0	6.50E+00	4.18E-05	2.38E-06	2.25E-02	1.05E+00	1.16E-01
34.0	7.69E+00	1.59E-04	2.42E-06	1.36E-02	9.56E-01	4.71E-01
36.0	8.82E+00	5.02E-04	2.20E-05	1.09E-02	8.01E-01	1.00E+00
38.0	1.00E+01	4.68E-03	1.47E-04	8.98E-03	5.39E-01	1.46E+00
40.0	1.14E+01	4.34E-02	6.44E-04	6.76E-03	3.40E-01	1.70E+00
42.0	1.26E+01	3.14E-01	2.01E-03	6.25E-03	2.37E-01	1.69E+00
44.0	1.32E+01	9.85E-01	4.65E-03	5.80E-03	1.76E-01	1.48E+00
46.0	1.34E+01	1.98E+00	8.80E-03	5.67E-03	1.42E-01	1.20E+00
48.0	1.36E+01	3.18E+00	1.49E-02	6.87E-03	1.23E-01	9.36E-01
50.0	1.37E+01	4.51E+00	2.68E-02	9.78E-03	1.09E-01	7.19E-01

Таблица 67

Расчетные функции возбуждения реакции ^{166}Ho(n,3pxn)Gd

En	^{164}Gd	^{163}Gd	^{162}Gd	^{161}Gd	^{160}Gd	^{159}Gd
18.0			8.00E-11			
20.0			2.91E-09			
22.0			9.12E-08	1.97E-12		
24.0			7.02E-07	1.81E-10		
26.0			3.46E-06	3.41E-08		
28.0			1.21E-05	9.01E-07	2.72E-11	
30.0			2.65E-05	8.05E-06	3.10E-09	
32.0			5.62E-05	4.51E-05	7.65E-08	
34.0	2.00E-15		9.37E-05	1.68E-04	1.37E-06	
36.0	1.09E-13	3.10E-17	1.42E-04	4.95E-04	1.46E-05	1.69E-10
38.0	1.97E-12	1.51E-15	1.67E-04	1.02E-03	9.34E-05	8.07E-09
40.0	1.86E-11	1.31E-13	1.82E-04	1.70E-03	4.05E-04	2.38E-07
42.0	1.15E-10	5.56E-12	1.89E-04	2.39E-03	1.30E-03	3.35E-06
44.0	5.09E-10	9.88E-11	1.90E-04	2.93E-03	2.68E-03	3.03E-05
46.0	1.68E-09	9.19E-10	1.58E-04	2.96E-03	5.18E-03	1.74E-04
48.0	4.19E-09	5.34E-09	1.54E-04	2.79E-03	9.15E-03	8.67E-04
50.0	8.34E-09	2.16E-08	1.49E-04	2.82E-03	1.31E-02	2.73E-03

FIGURE CAPTIONS



Figs 1-67: Excitation functions for the ..... reaction.

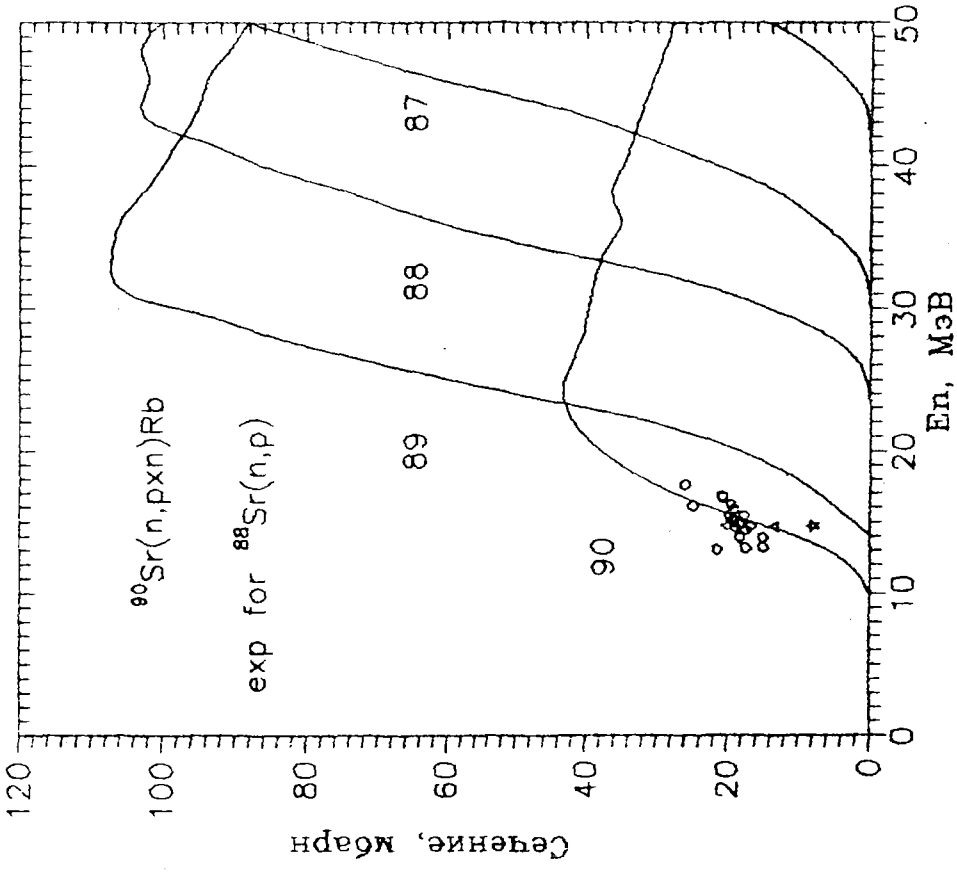


Рис. 2. Функции возбуждения реакции ^{90}Sr(n,pxn)Rb

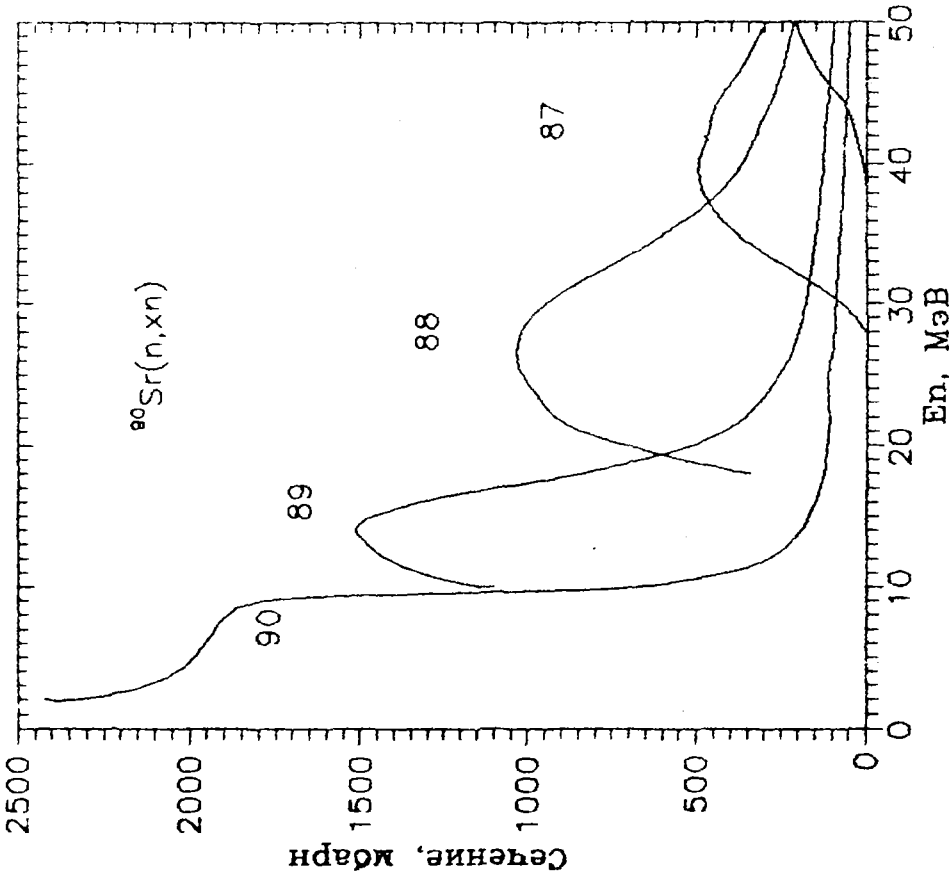


Рис. 1. Функции возбуждения реакции ^{90}Sr(n,xn)

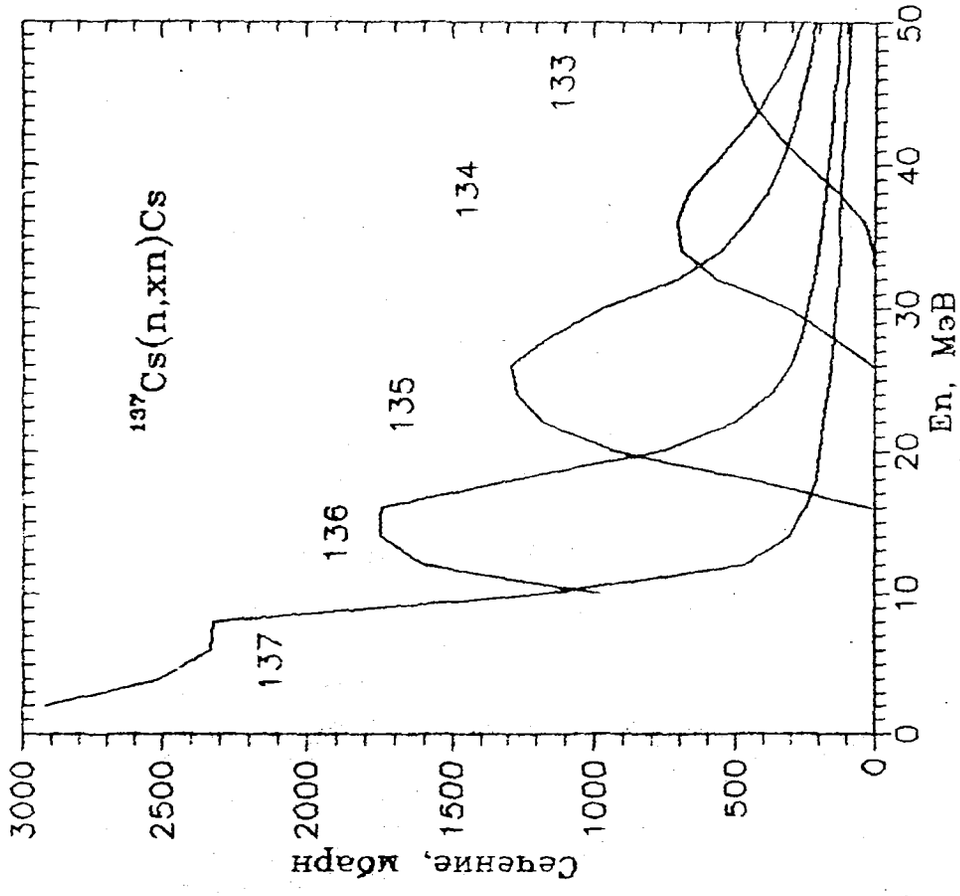


Рис. 4. Функции возбуждения реакции ^{137}Cs(n,xn)Cs

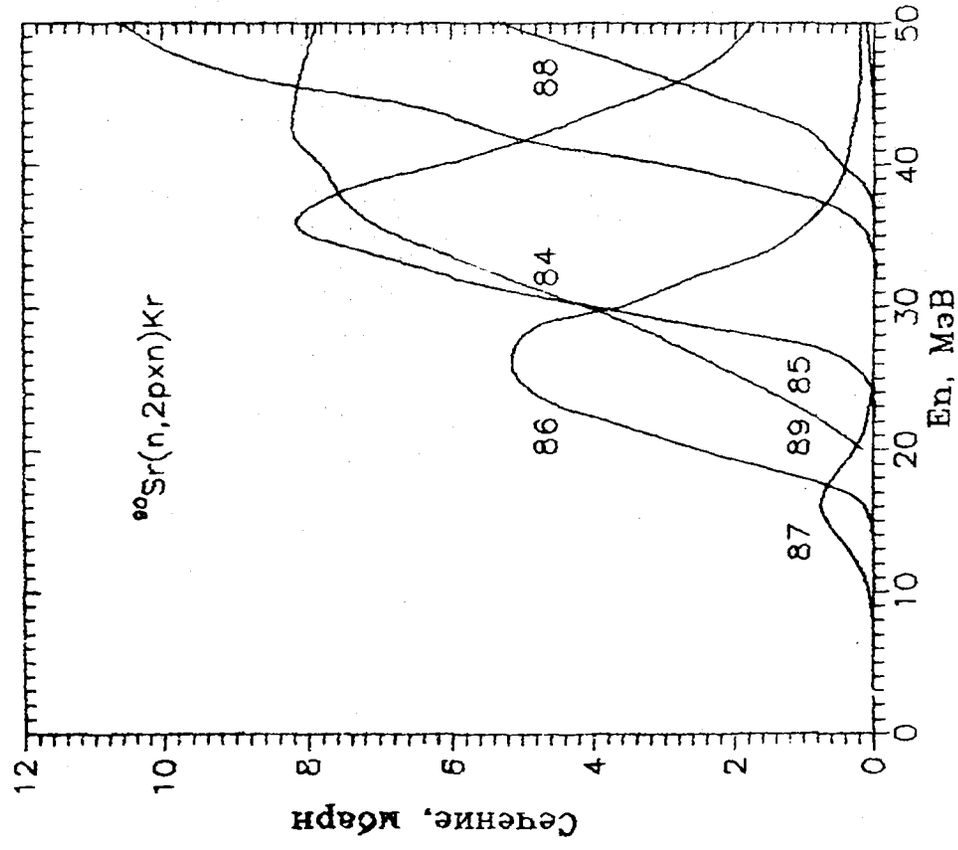


Рис. 3. Функции возбуждения реакции ^{90}Sr(n,2pxn)Kr

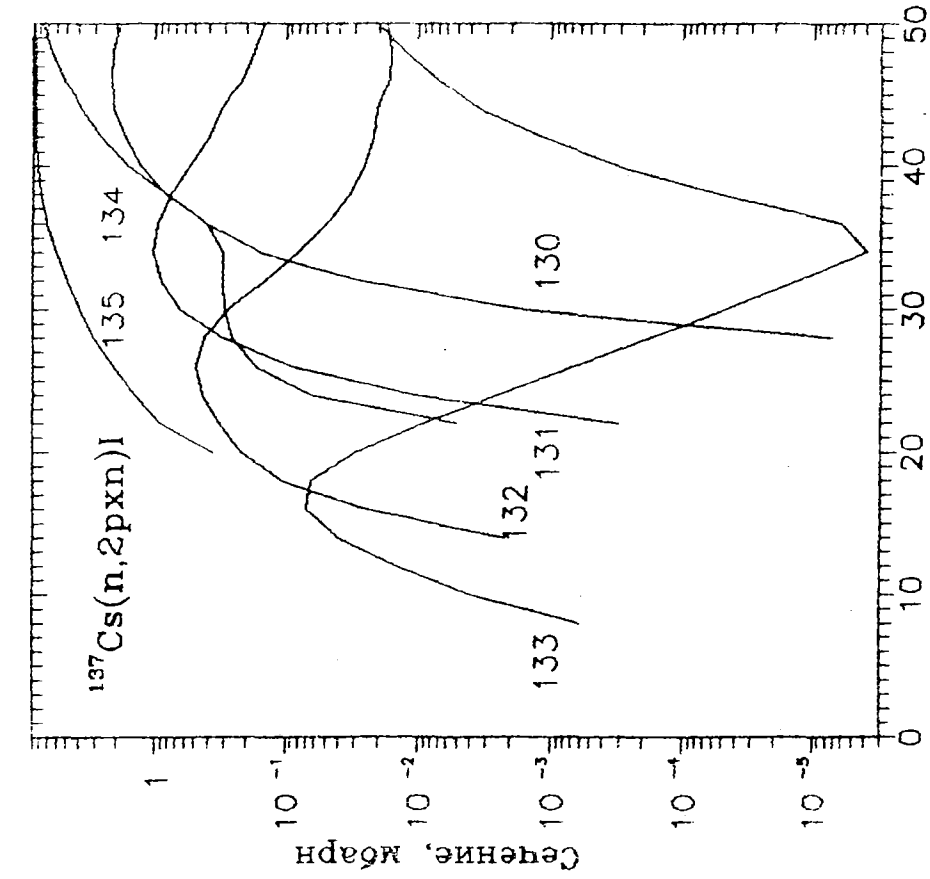


Рис. 6 Функции возбуждения реакции ^{137}Cs(n,2pxn)I

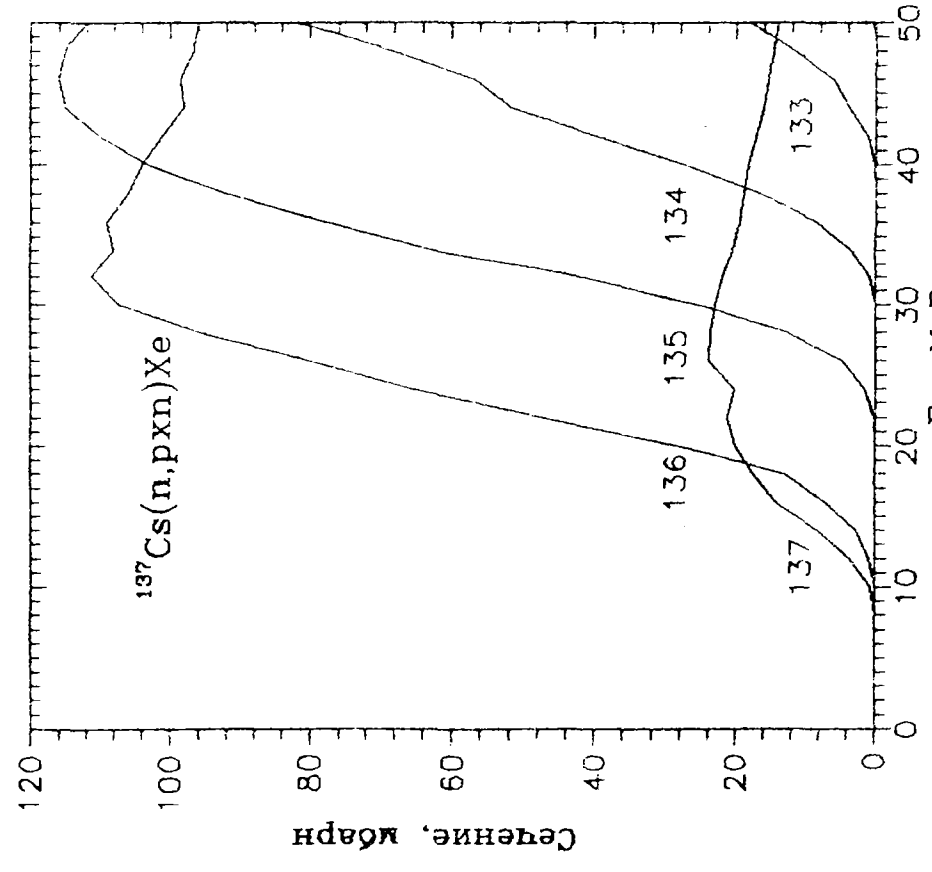


Рис. 5. Функции возбуждения реакции ^{137}Cs(n,pxn)Xe

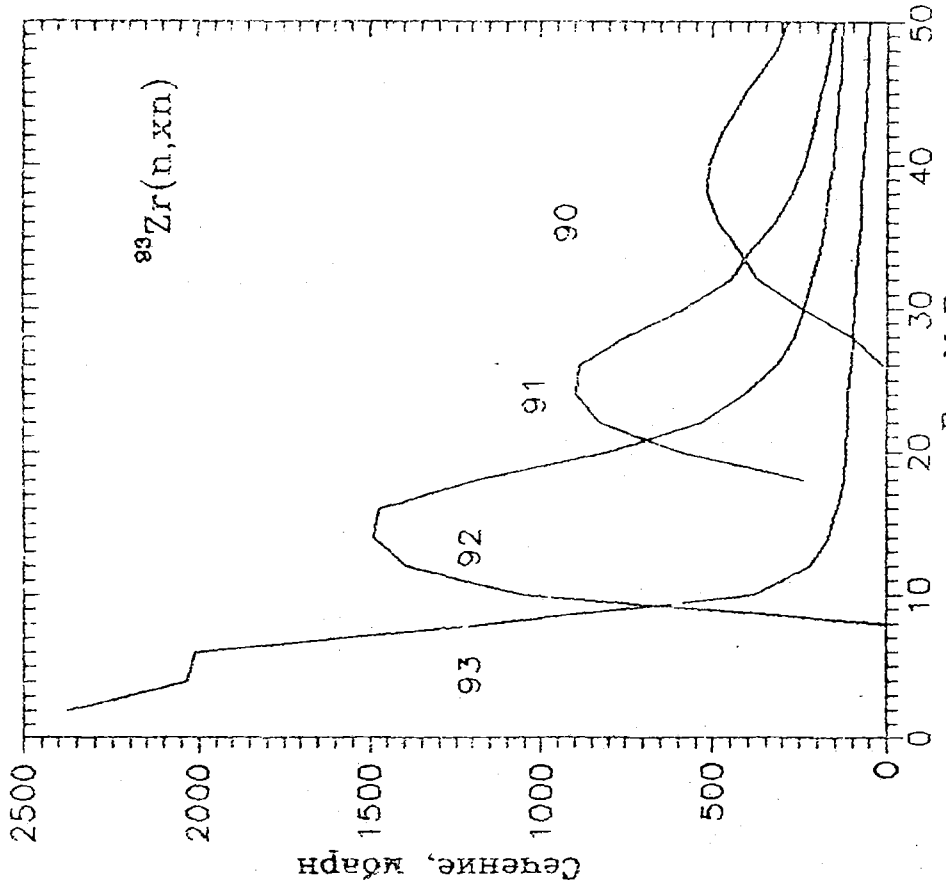


Рис. 8. Функции возбуждения реакции ^{93}Zr(n,xn).

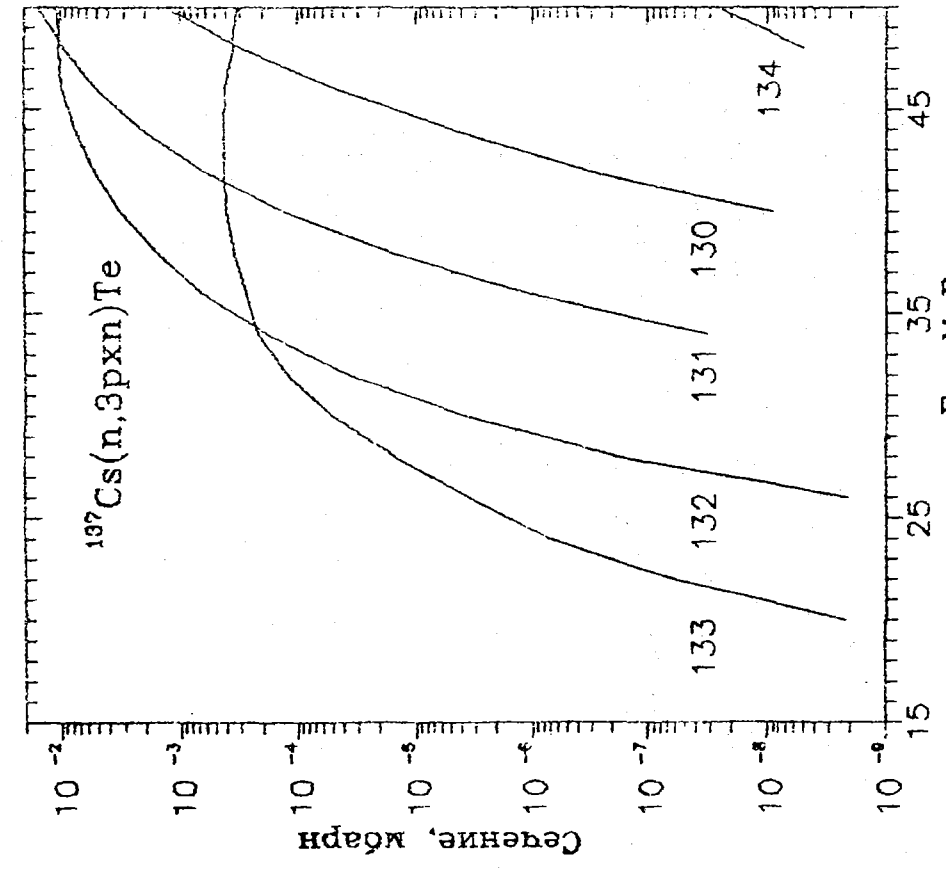


Рис. 7. Функции возбуждения реакции ^{137}Cs(n,3pxn)Te

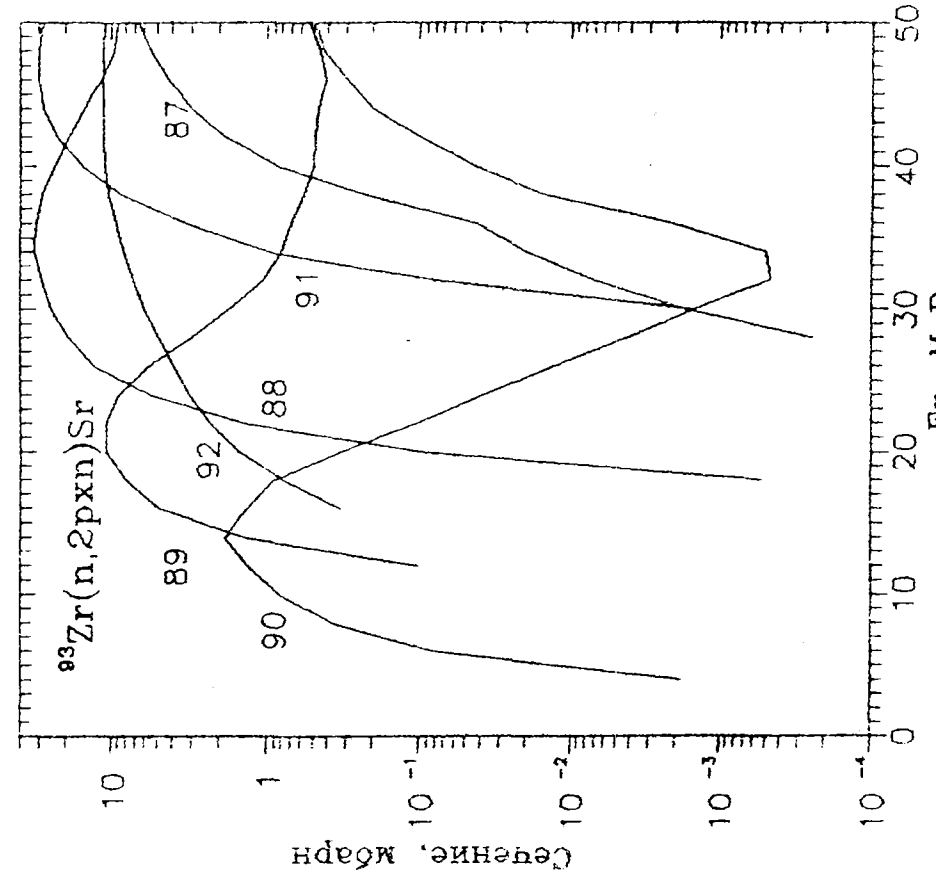


Рис. 10. Функции возбуждения реакции ^{93}Zr(n,2pxn)Sr

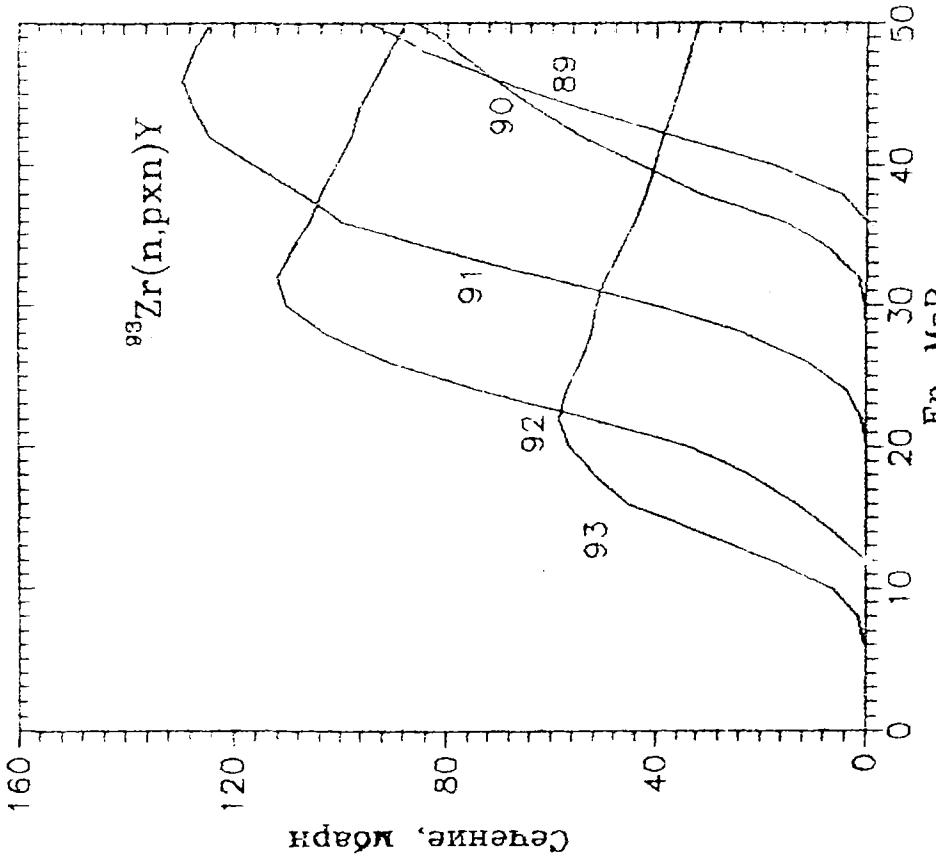


Рис. 9. Функции возбуждения реакции ^{93}Zr(n,pxn)Y

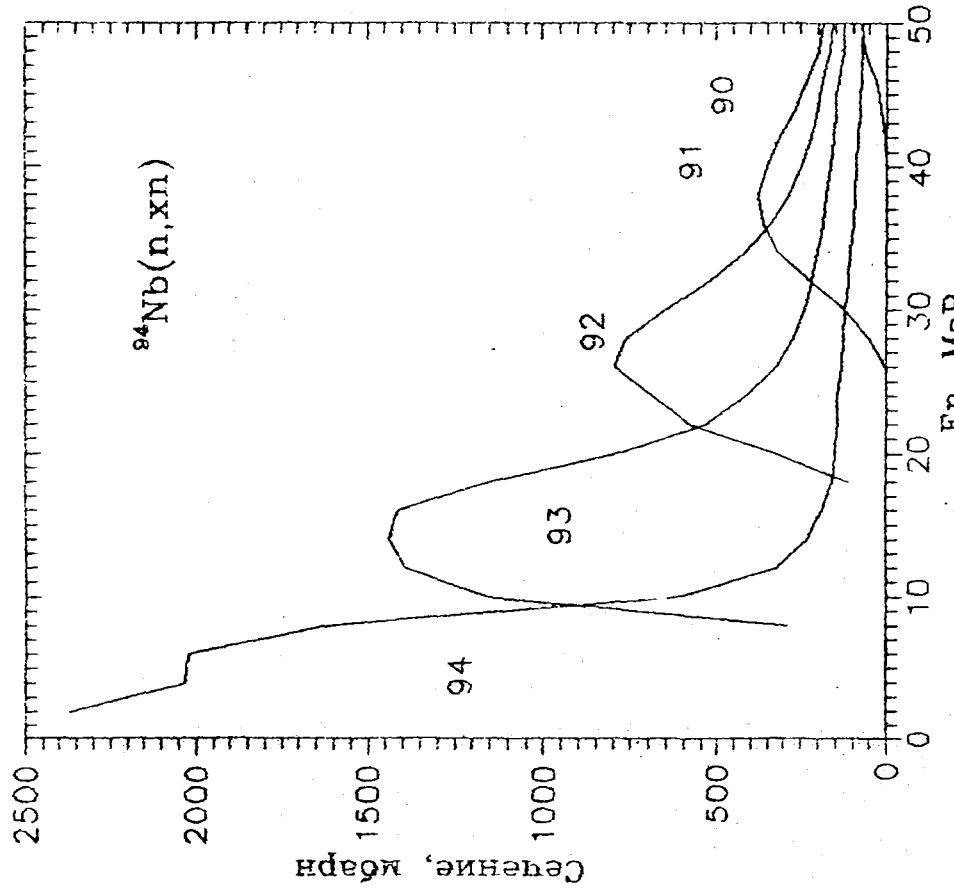


Рис. 12. Функции возбуждения реакции ^{94}Nb(n,xn)

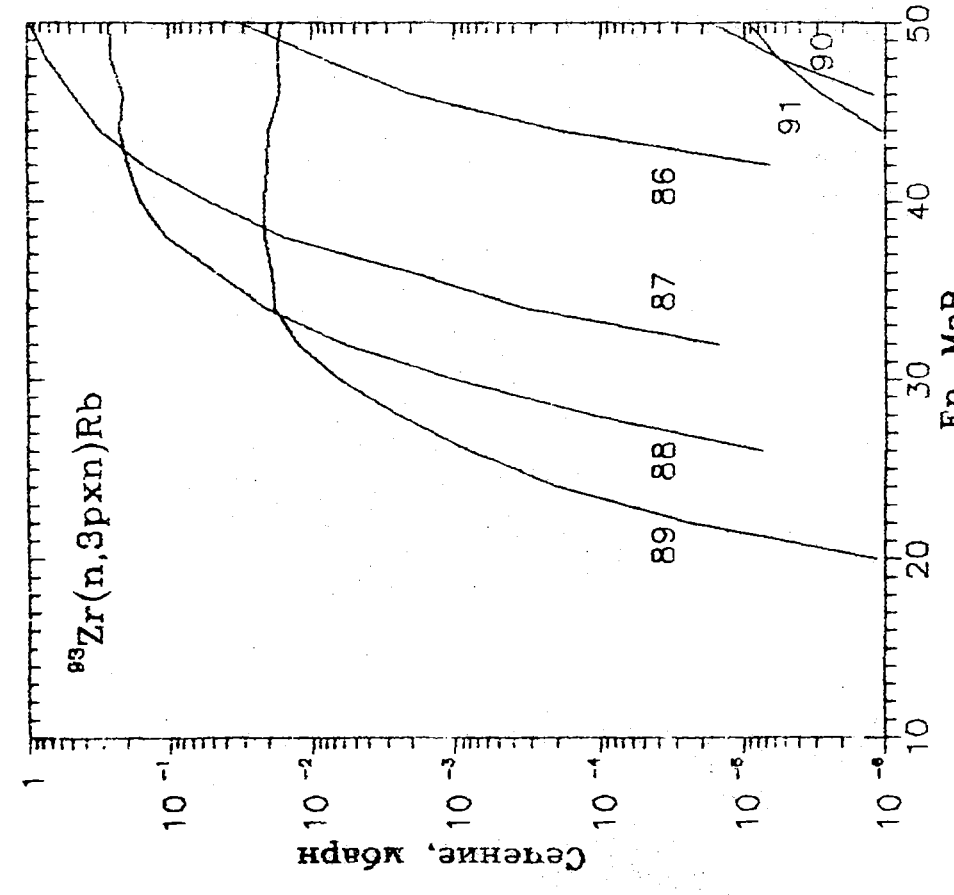


Рис. 11. Функции возбуждения реакции ^{93}Zr(n,3pxn)Rb

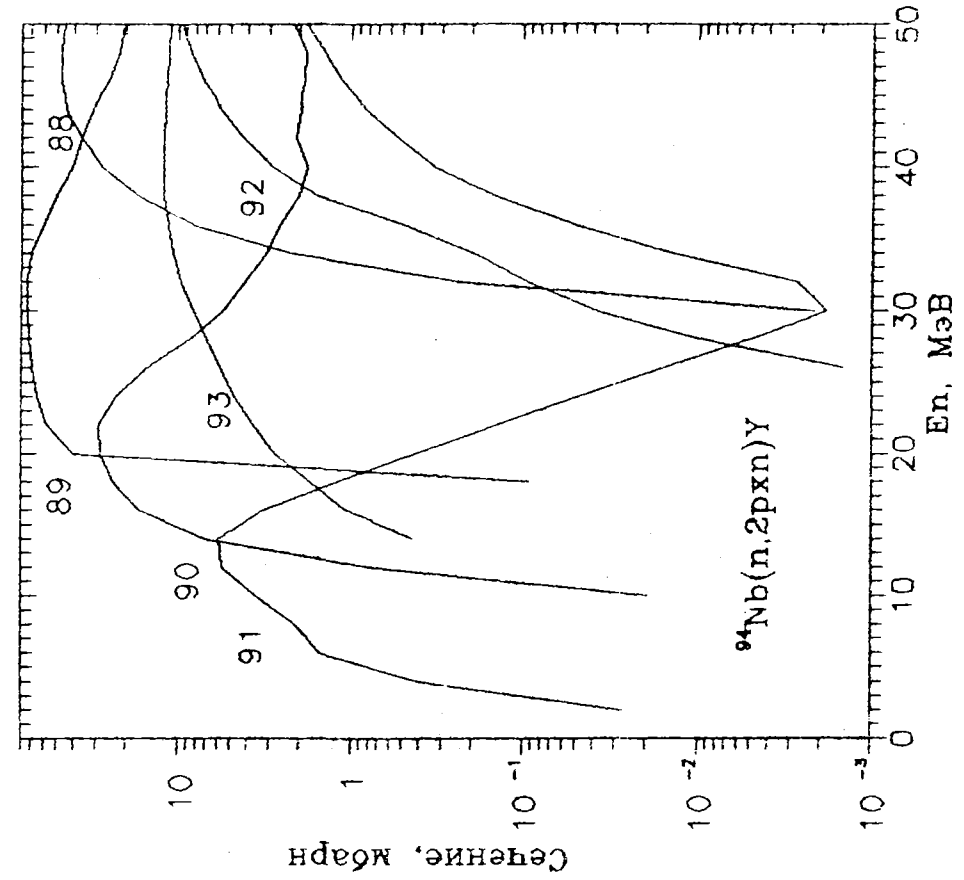


Рис. 14. Функции возбуждения реакции ^{94}Nb(n,2pxn)Y

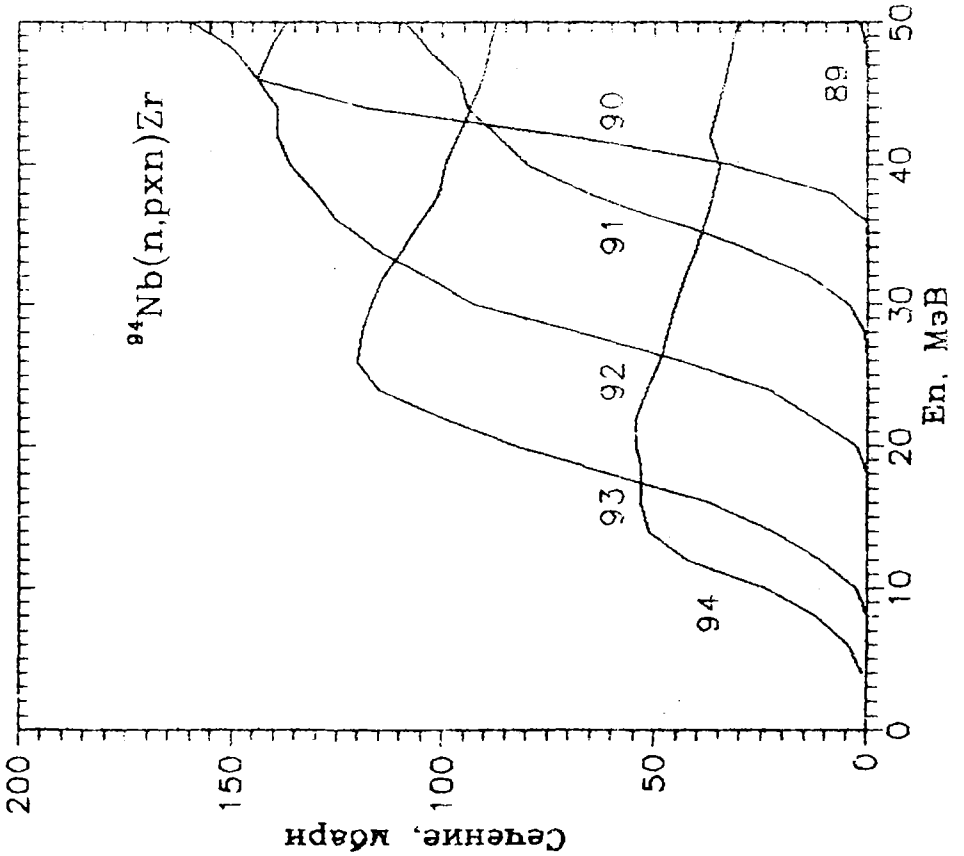


Рис. 13. Функции возбуждения реакции ^{94}Nb(n,pxn)Zr

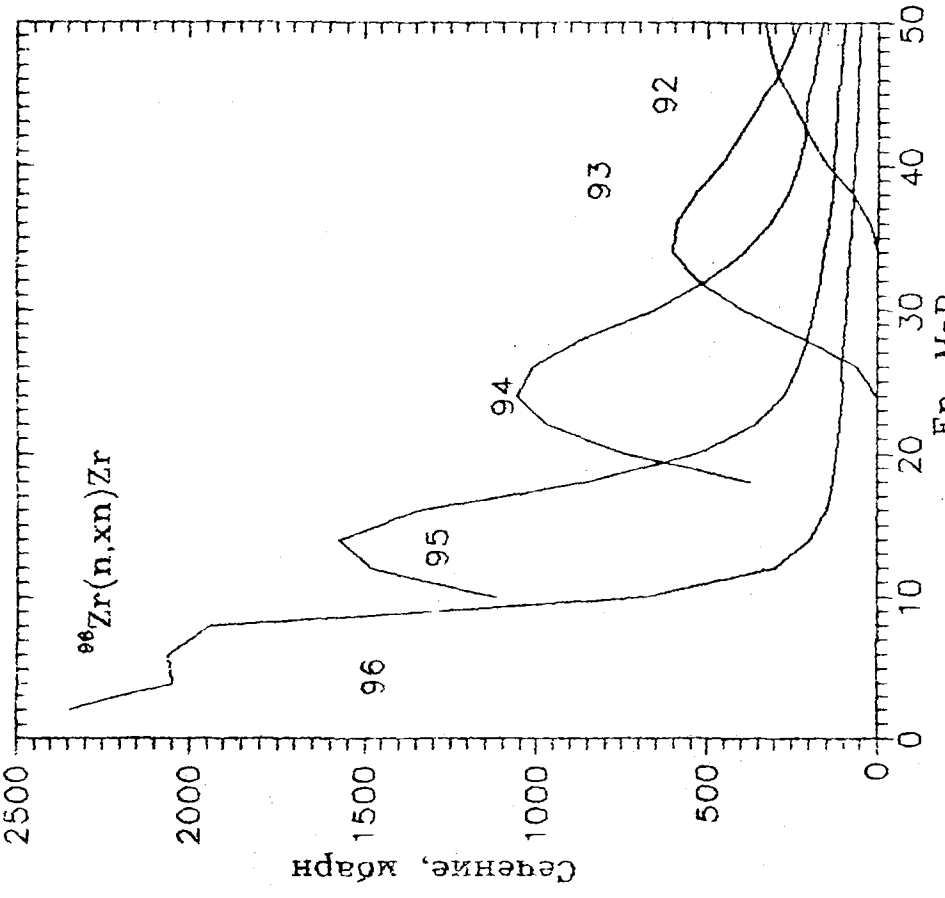


Рис. 16. Функции возбуждения реакции ^{96}Zr(n,xn)Zr

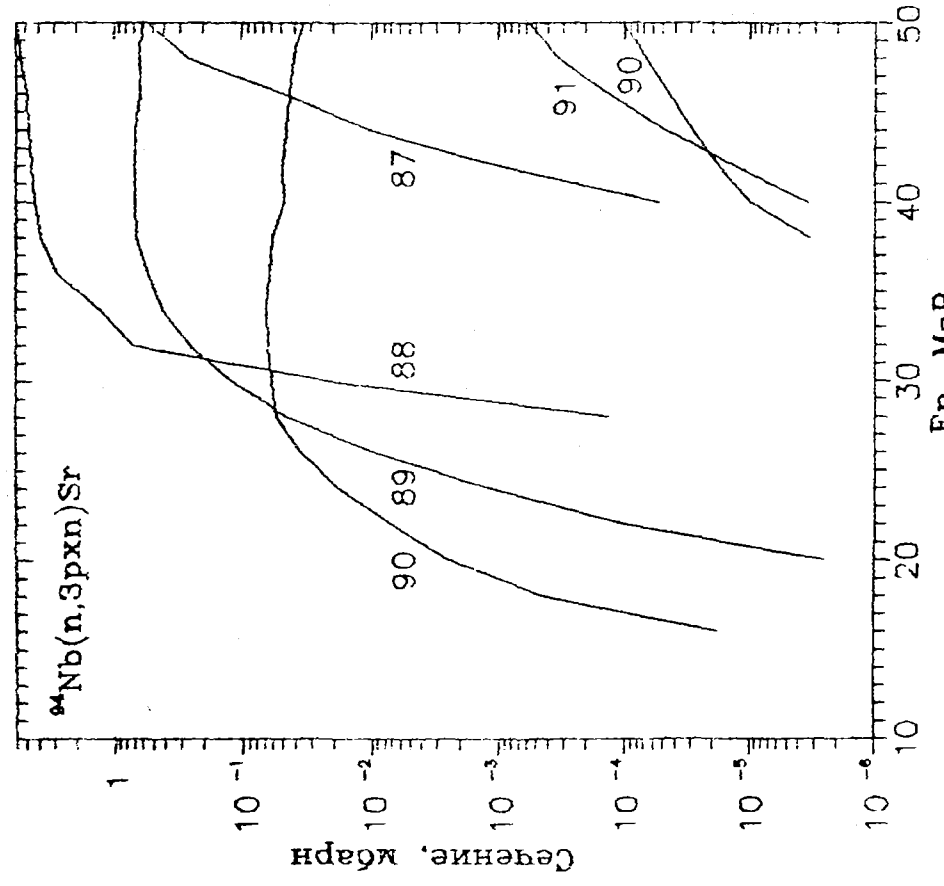


Рис. 15. Функции возбуждения реакции ^{94}Nb(n,3pxn)Sr

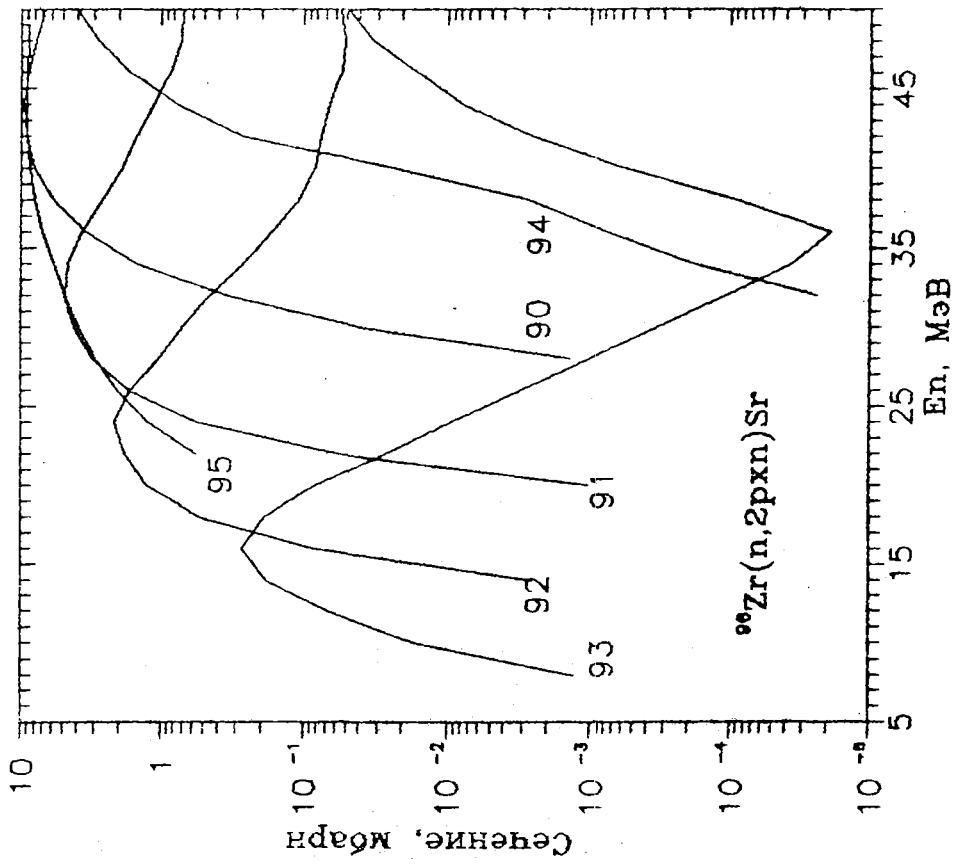


Рис. 18. Функции возбуждения реакции ^{96}Zr(n,2pxn)Sr

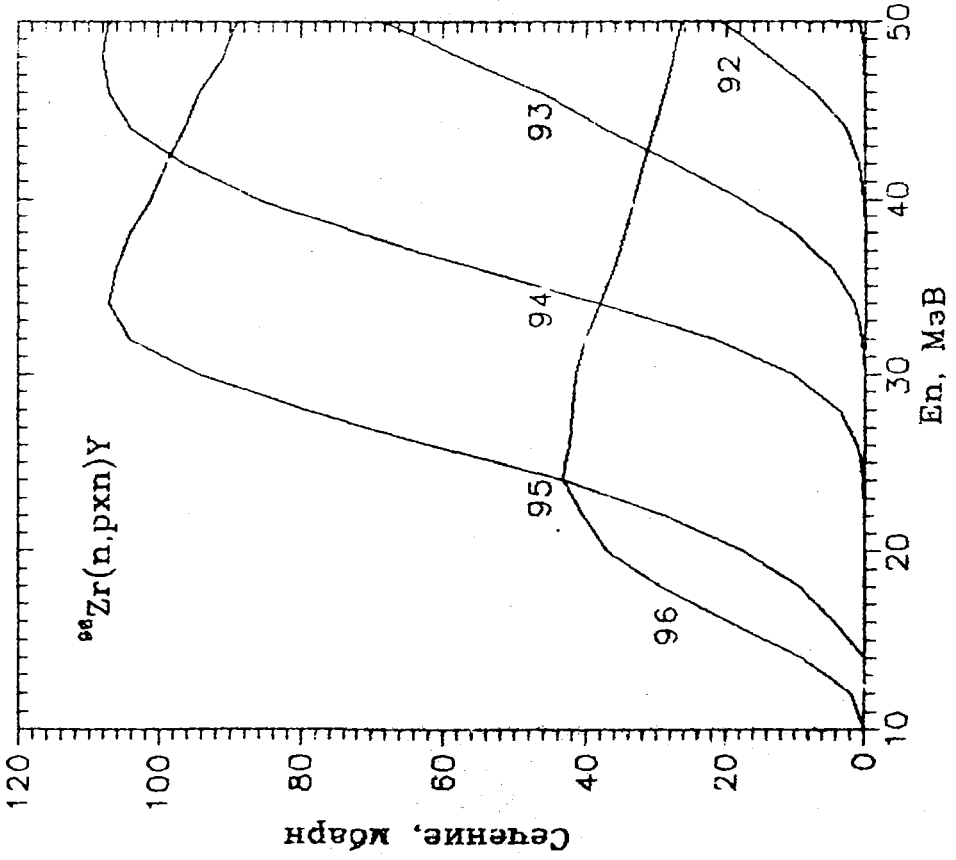


Рис. 17. Функции возбуждения реакции ^{96}Zr(n,pxn)Y

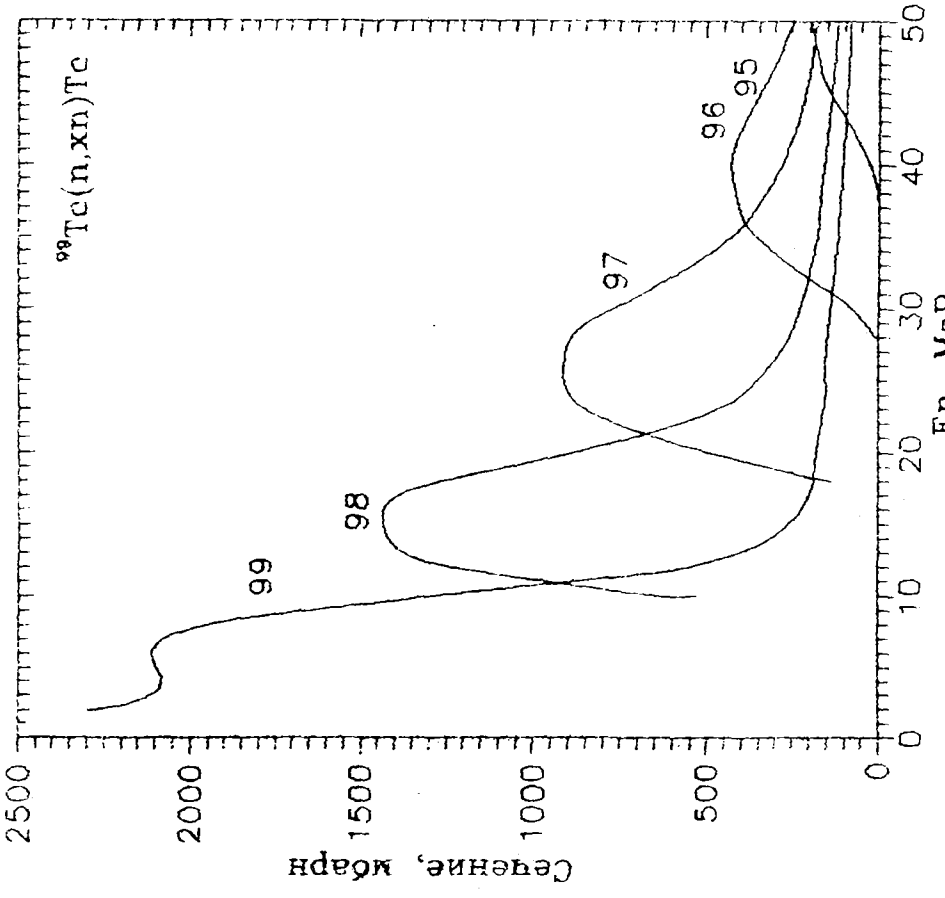


Рис. 20. Функции возбуждения реакции ^{99}Tc(n,xn)Tc

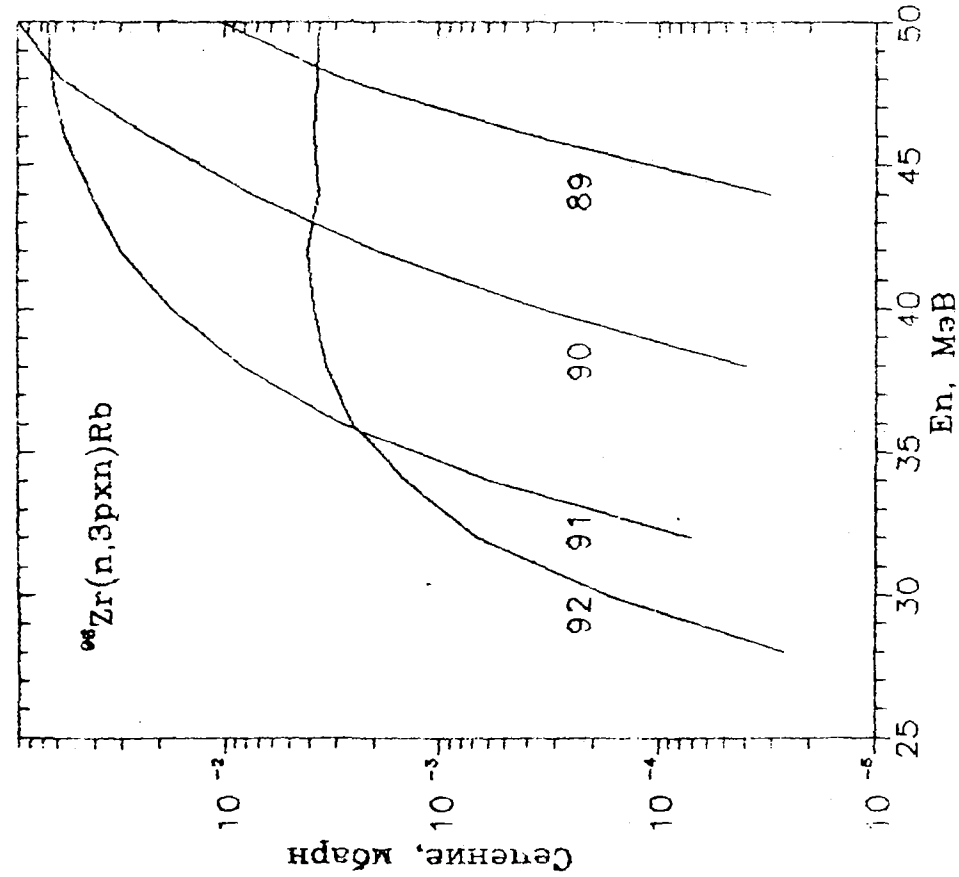


Рис. 19. Функции возбуждения реакции ^{96}Zr(n,3pxn)Rb

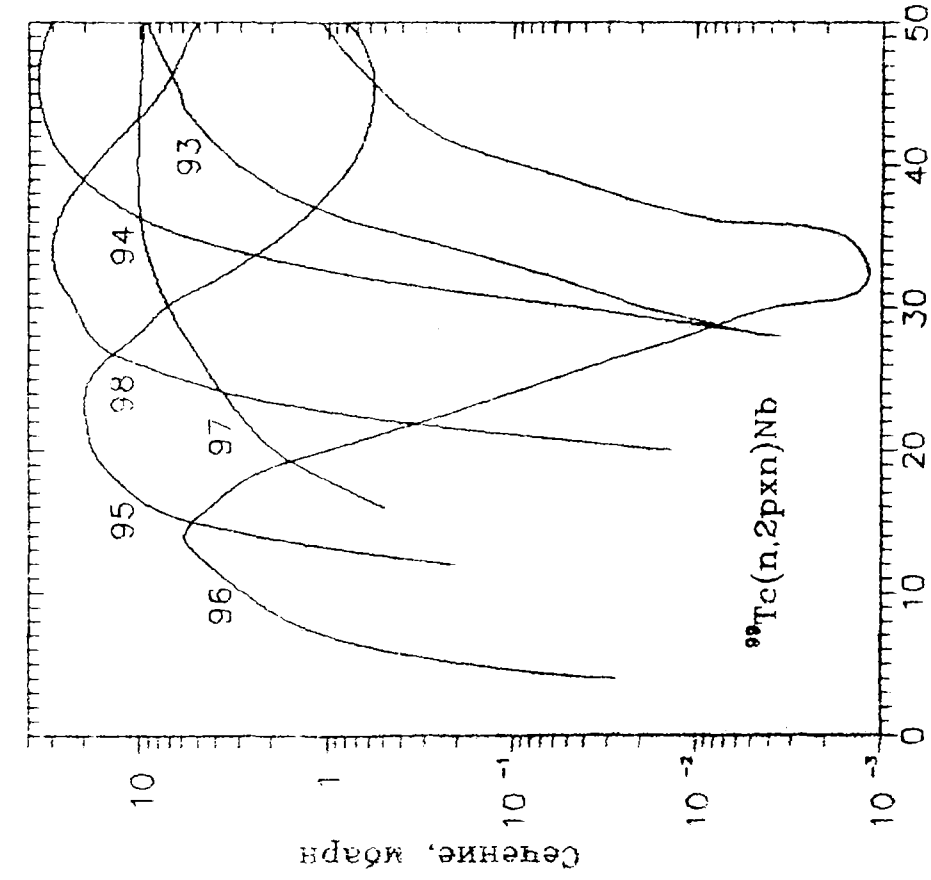


Рис. 22. Функции возбуждения реакции ^{99}Tc(n,2pxn)Nb

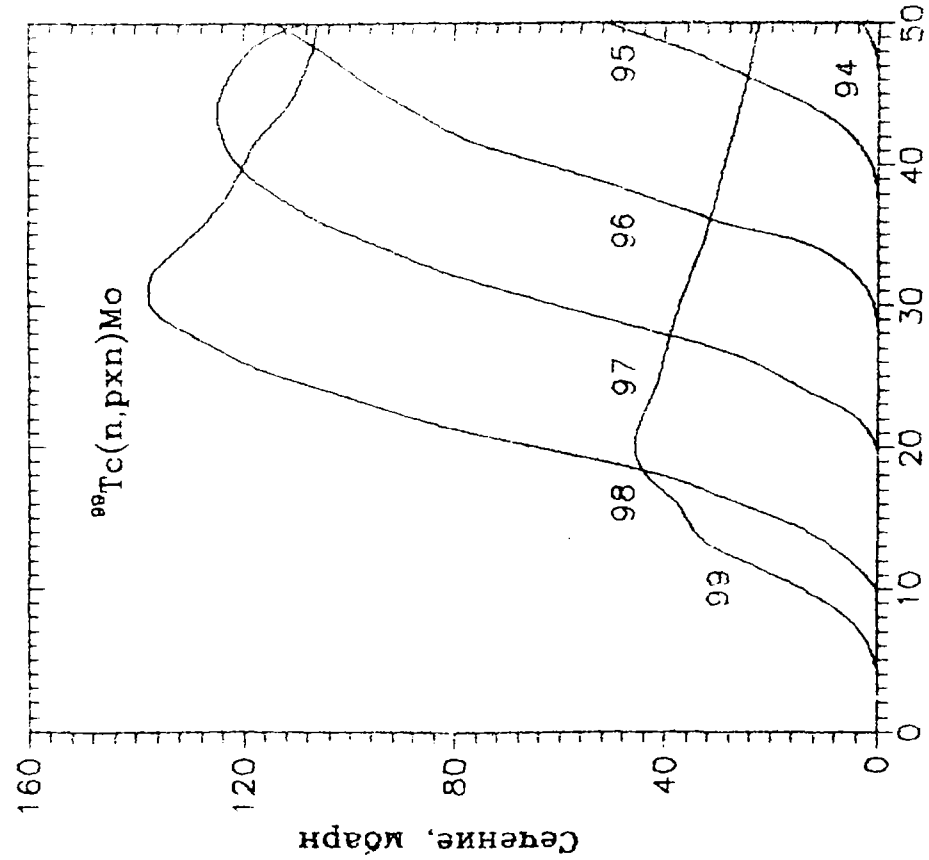


Рис. 21. Функции возбуждения реакции ^{99}Tc(n,pxn)Mo

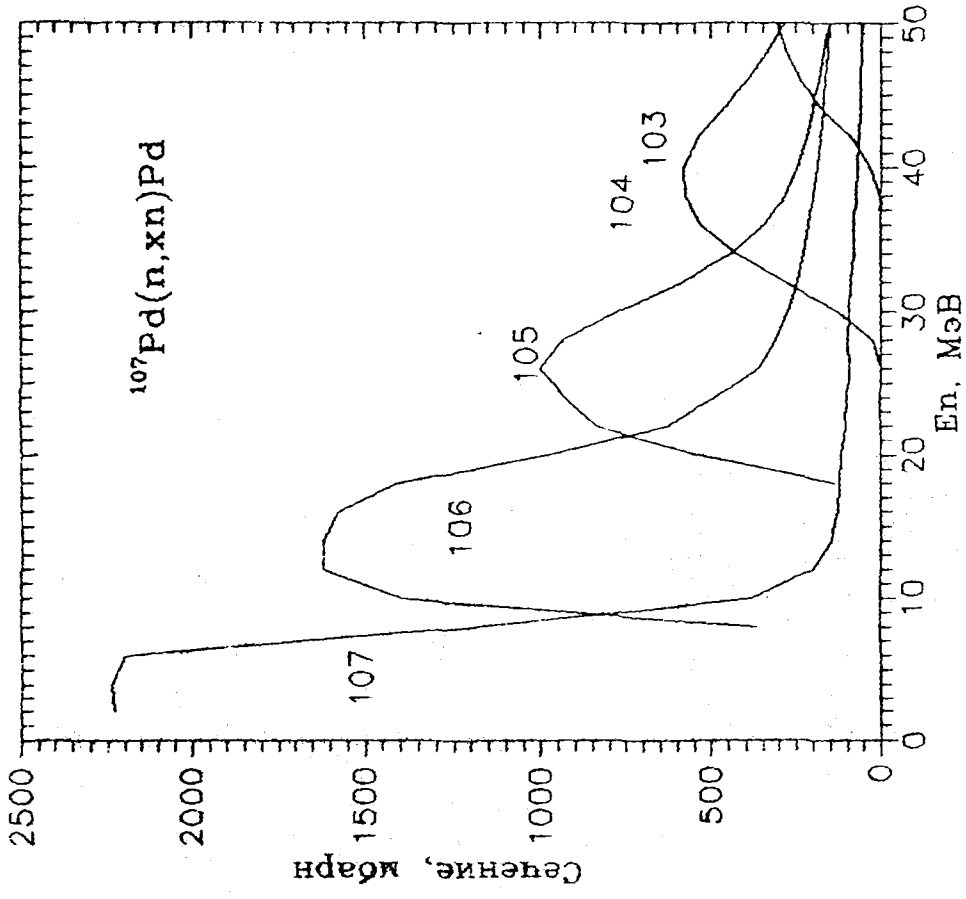


Рис. 24. Функции возбуждения реакции ^{107}Pd(n, xn)Pd

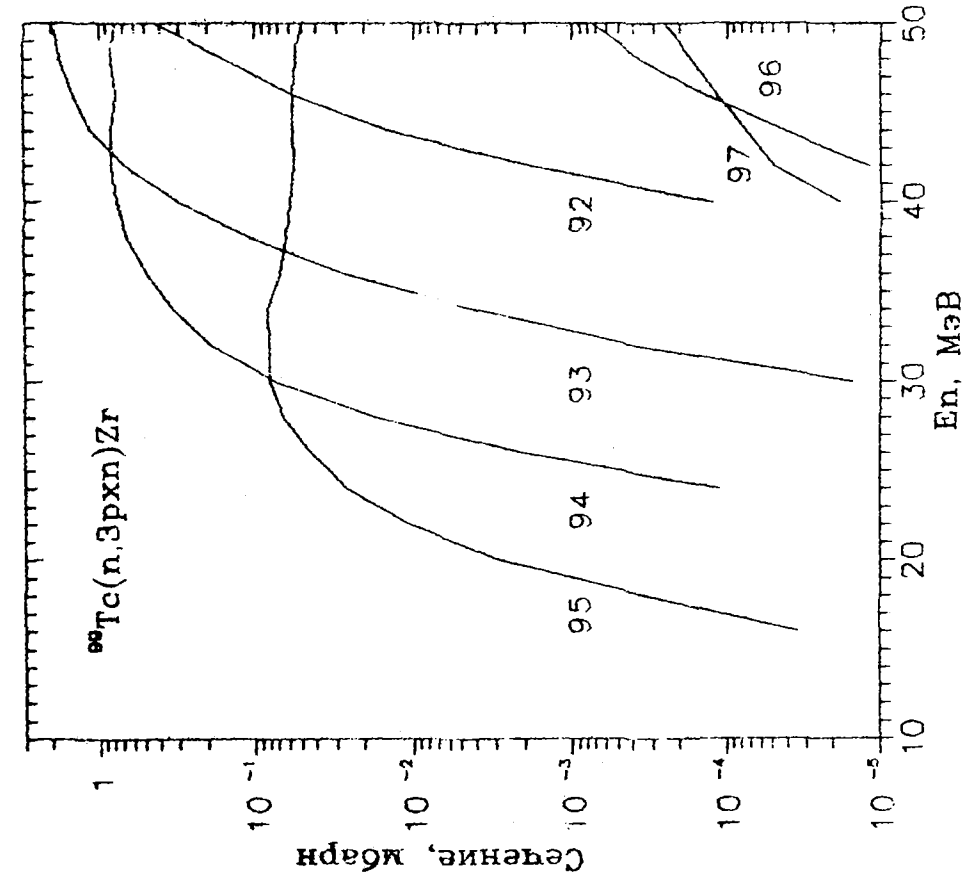


Рис. 23. Функции возбуждения реакции ^{99}Tc(n, 3pxn)Zr

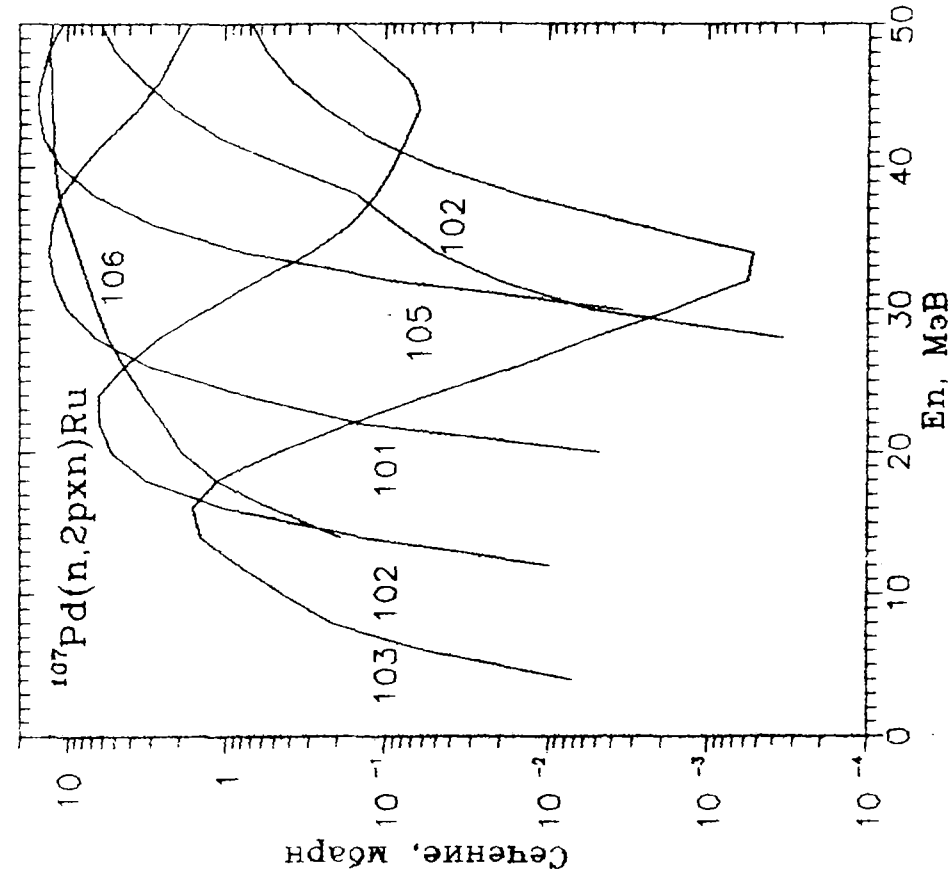


Рис. 26. Функции возбуждения реакции ^{107}Pd(n,2pxn)Ru

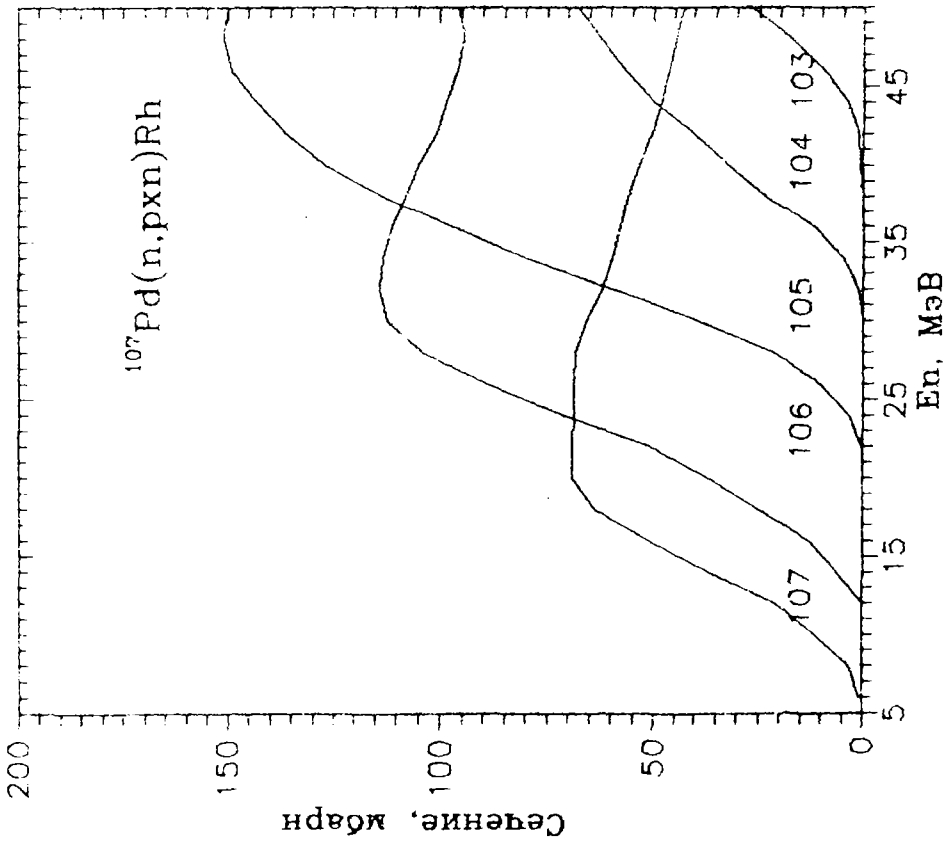


Рис. 25. Функции возбуждения реакции ^{107}Pd(n,pxn)Rh

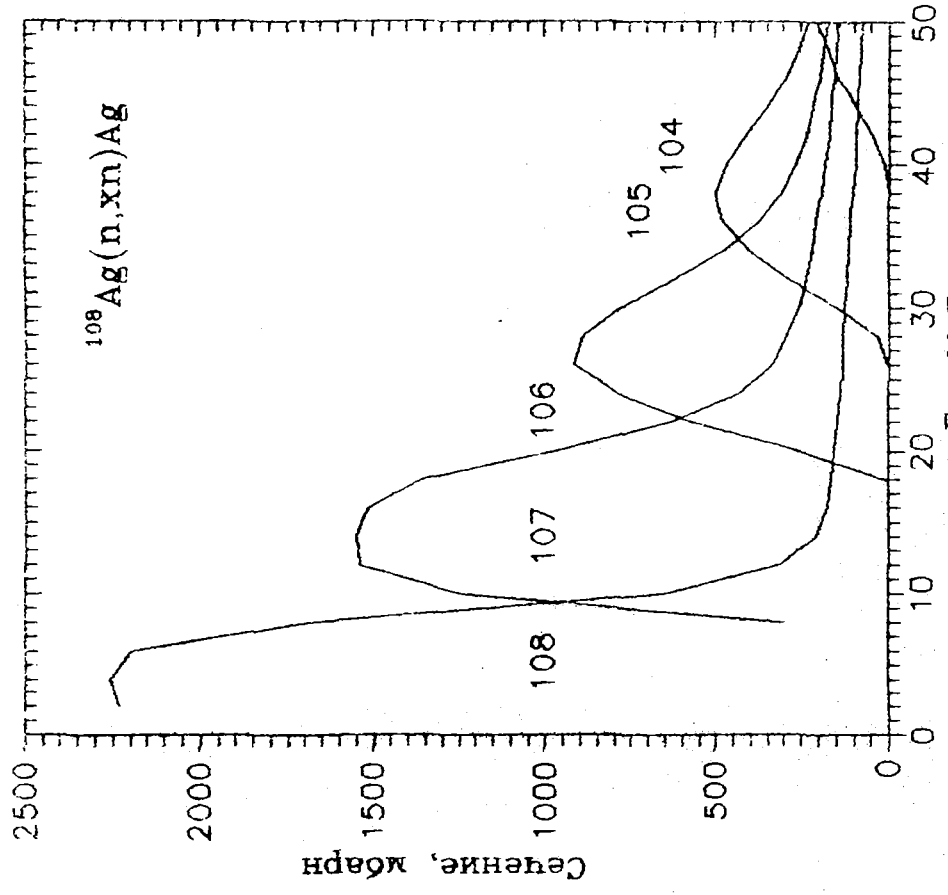


Рис. 28. Функции возбуждения реакции ^{108}Ag(n,xn)Ag

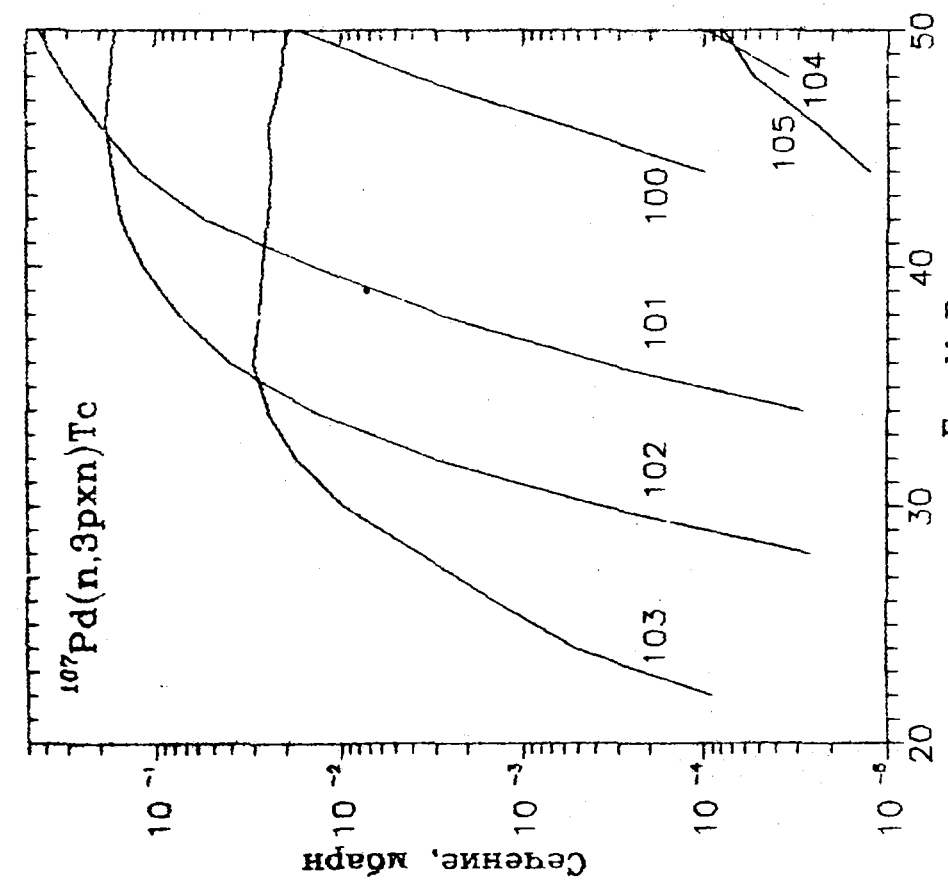


Рис. 27. Функции возбуждения реакции ^{107}Pd(n,3pxn)Tc

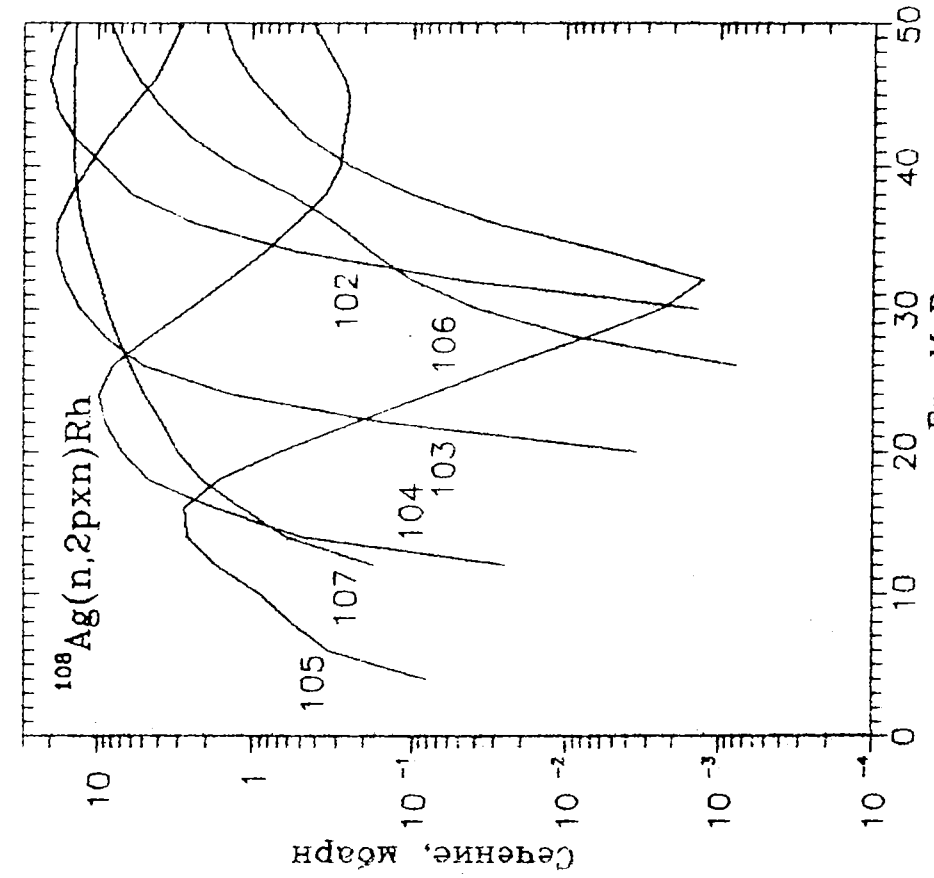


Рис. 30. Функции возбуждения реакции ^{108}Ag(n,2pxn)Rh

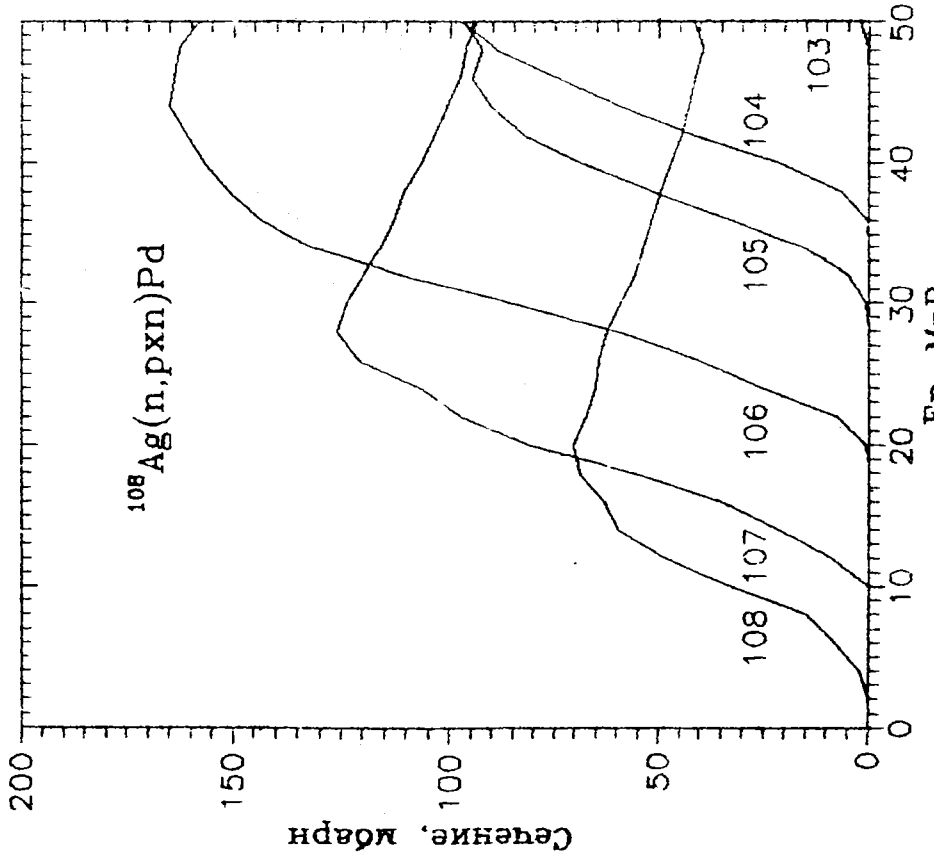


Рис. 29. Функции возбуждения реакции ^{108}Ag(n,pxn)Pd

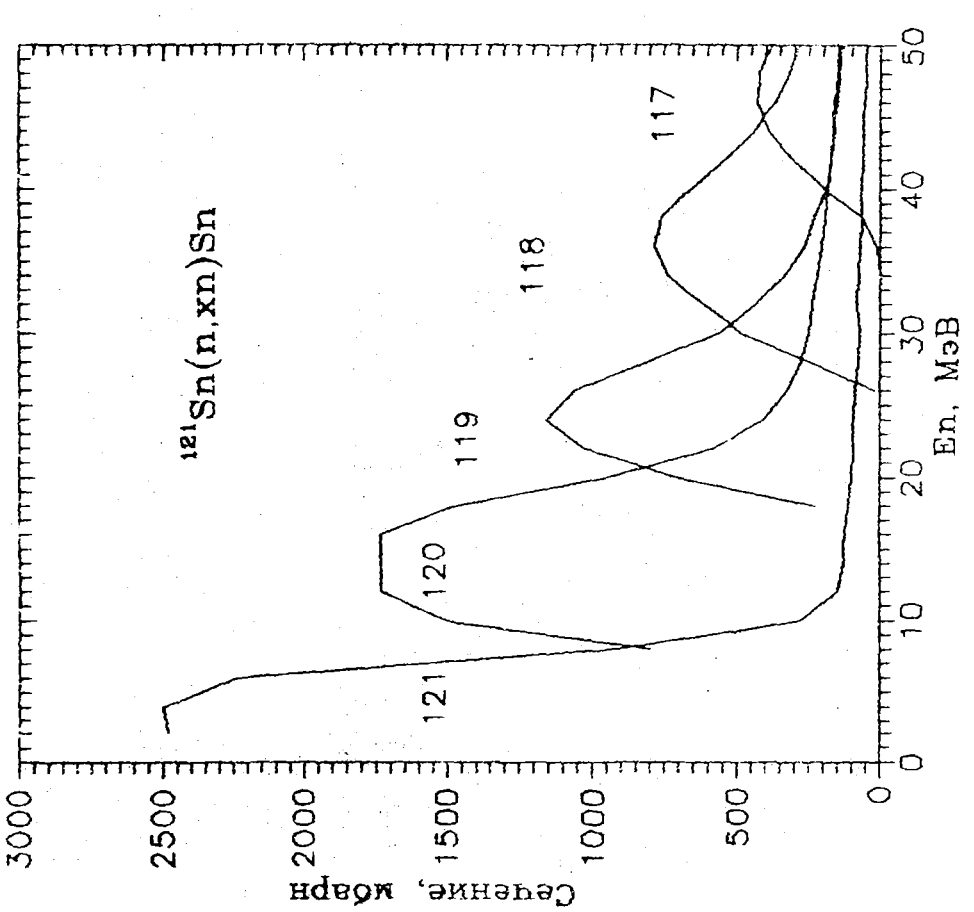


Рис. 32. Функции возбуждения реакции $^{121}Sn(n,xn)Sn$

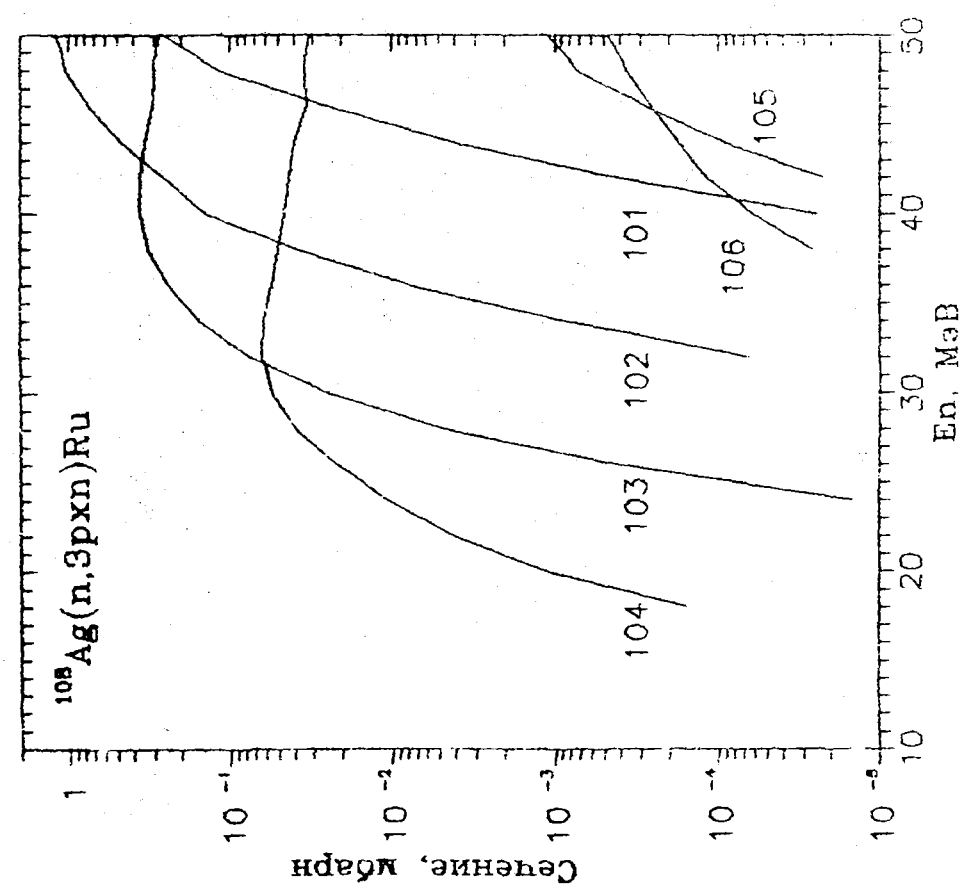


Рис. 31. Функции возбуждения реакции $^{108}Ag(n,3pxn)Ru$

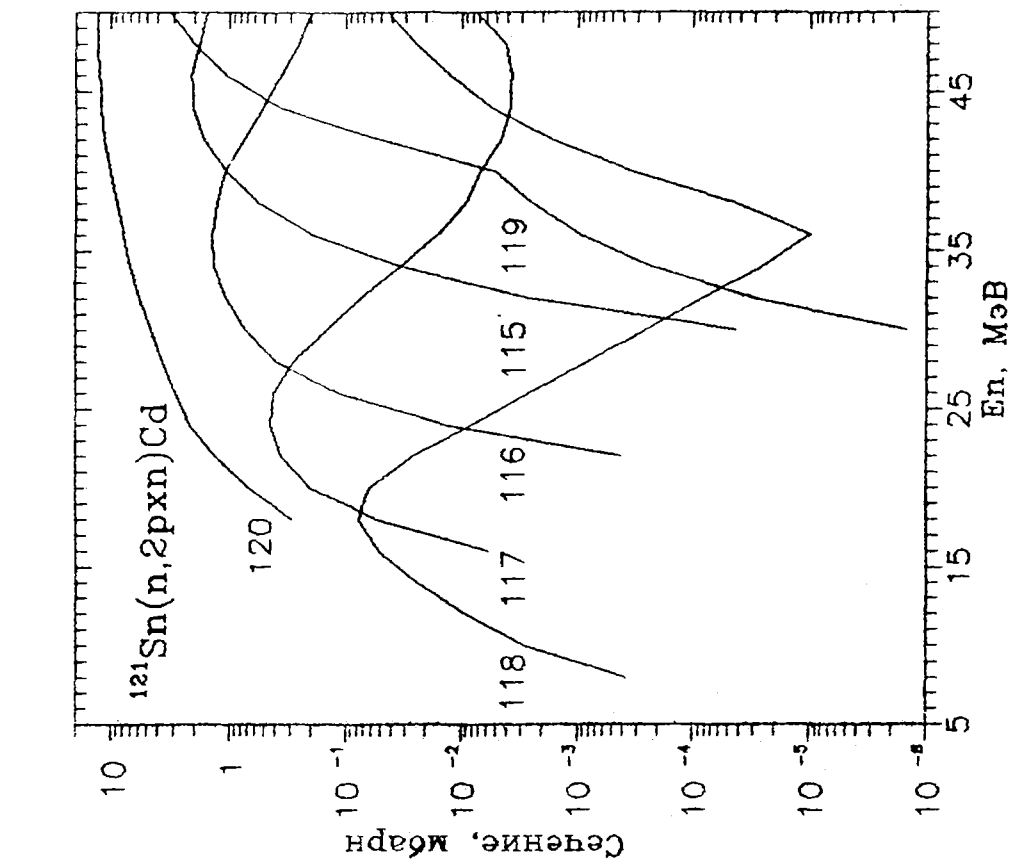


Рис. 34. Функции возбуждения реакции ^{121}Sn(n,2pxn)Cd

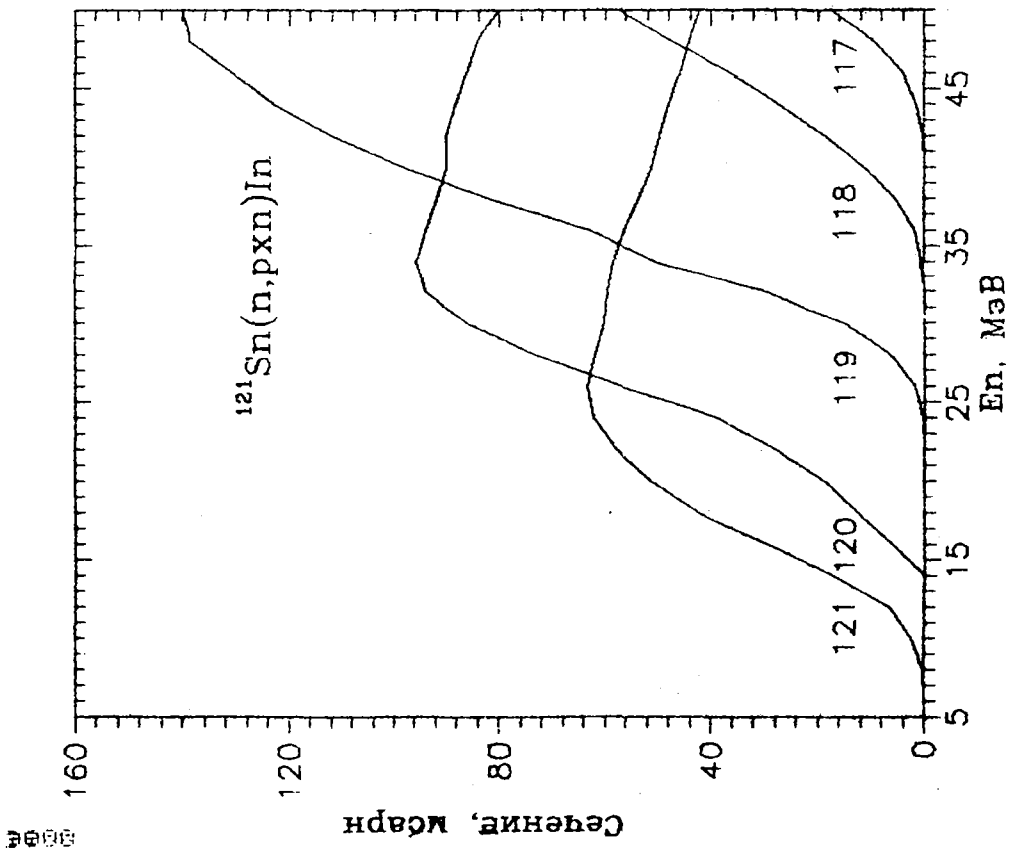


Рис. 33. Функции возбуждения реакции ^{121}Sn(n,pxn)In

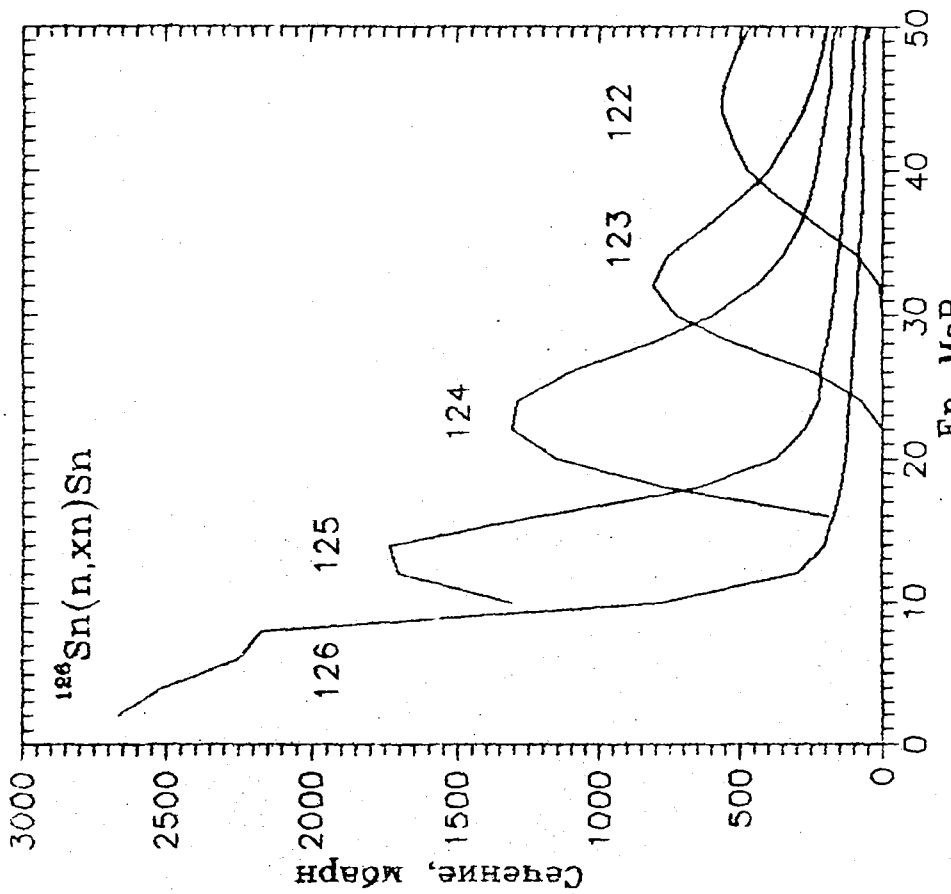


Рис. 36. Функции возбуждения реакции ^{126}Sn(n,xn)Sn

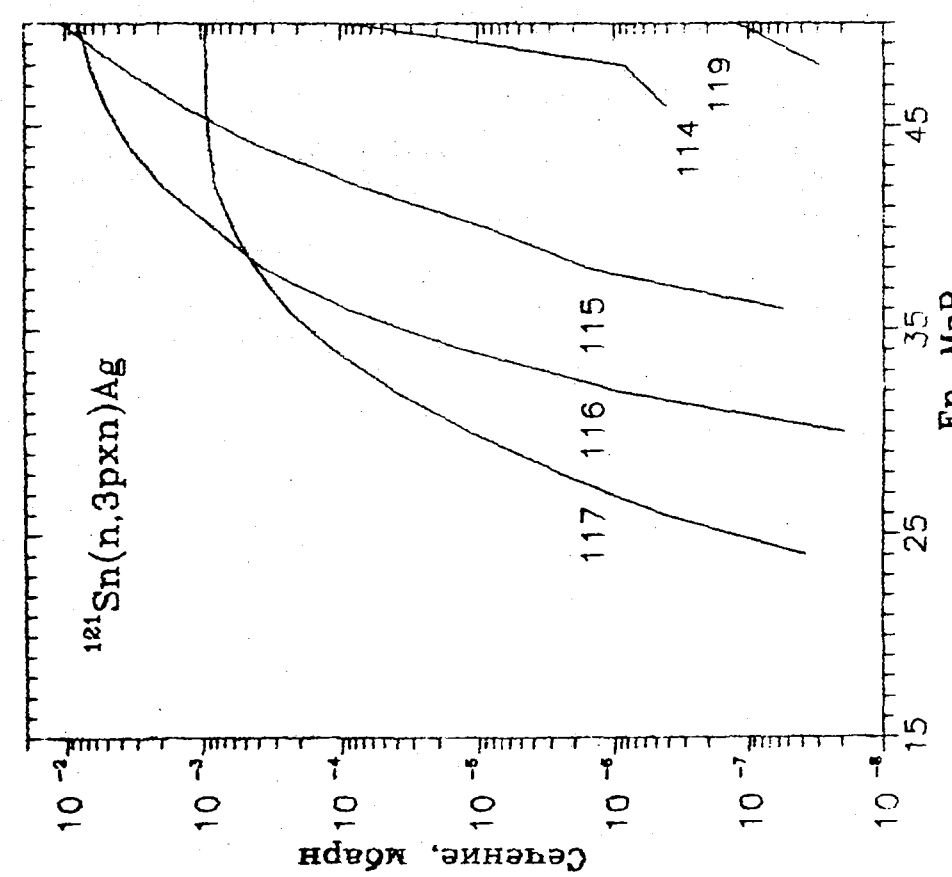


Рис. 35. Функции возбуждения реакции ^{121}Sn(n,3pxn)Ag

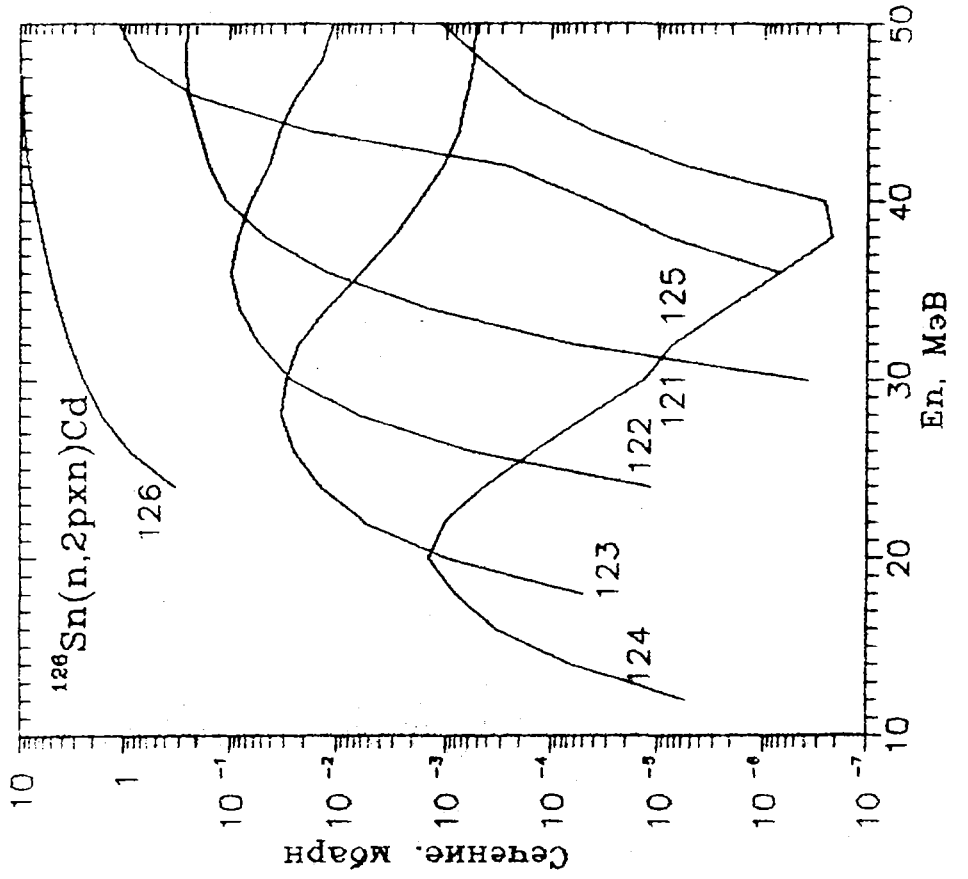


Рис. 38. Функции возбуждения реакции ^{126}Sn(n,2pxn)Cd

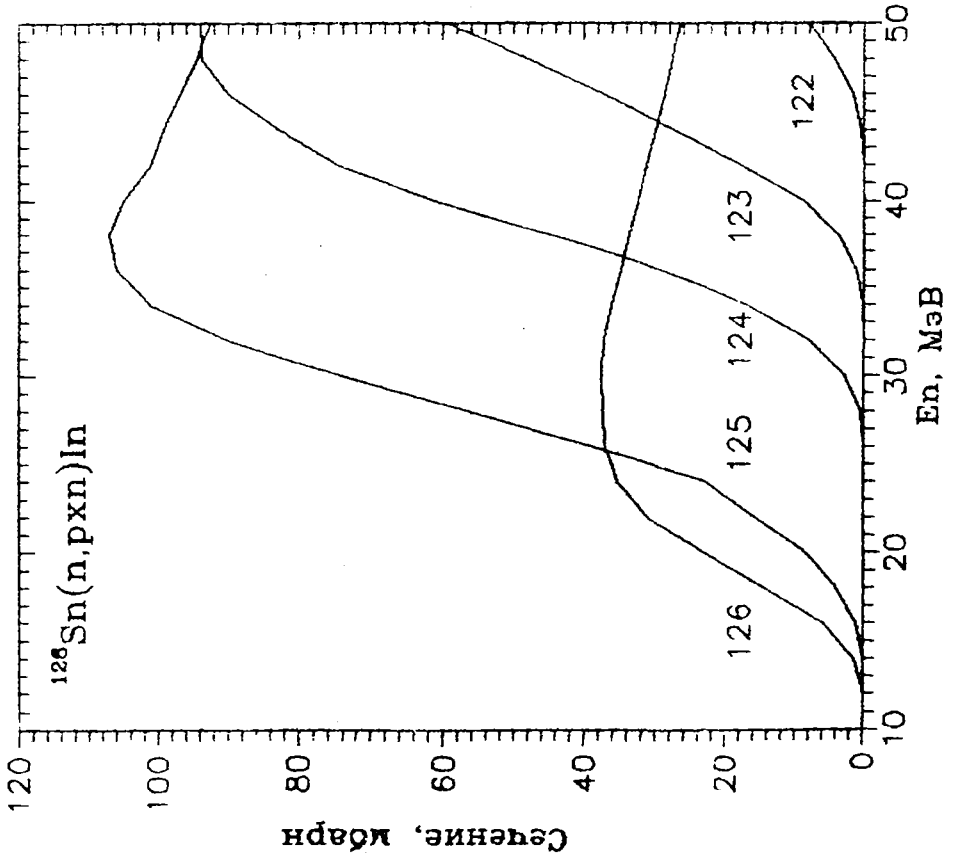


Рис. 37. Функции возбуждения реакции ^{126}Sn(n,pxn)In

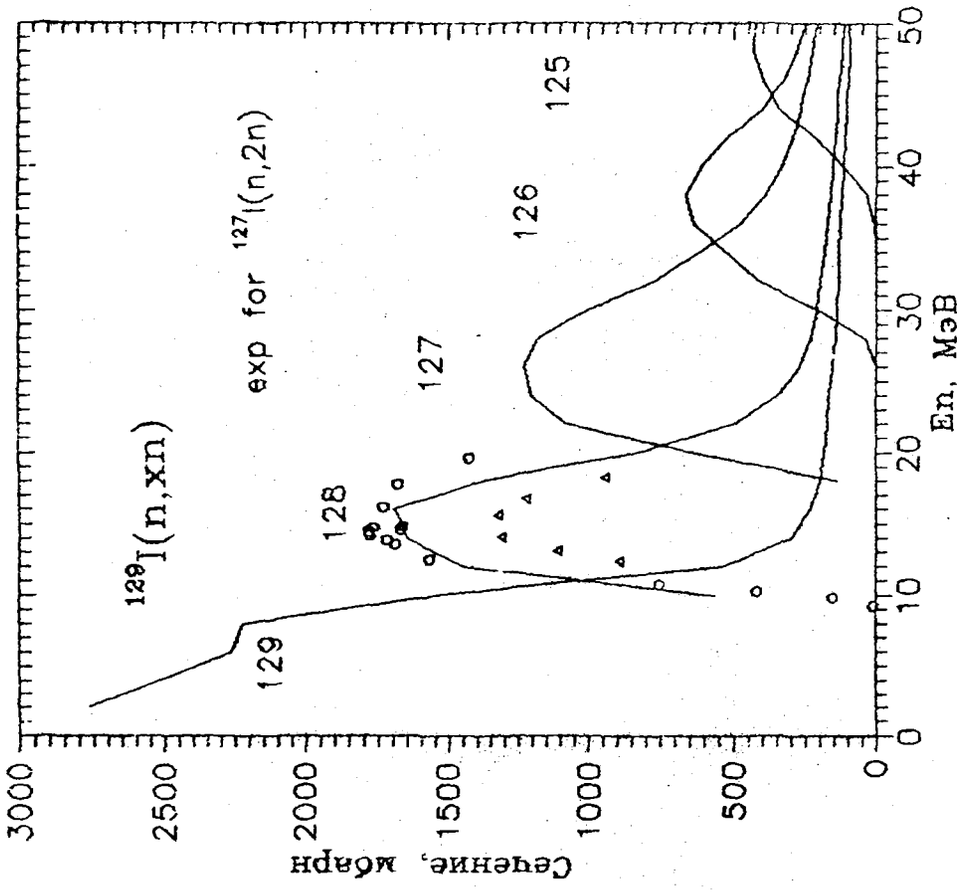


Рис. 40. Функции возбуждения реакции ^{129}I(n, xn)

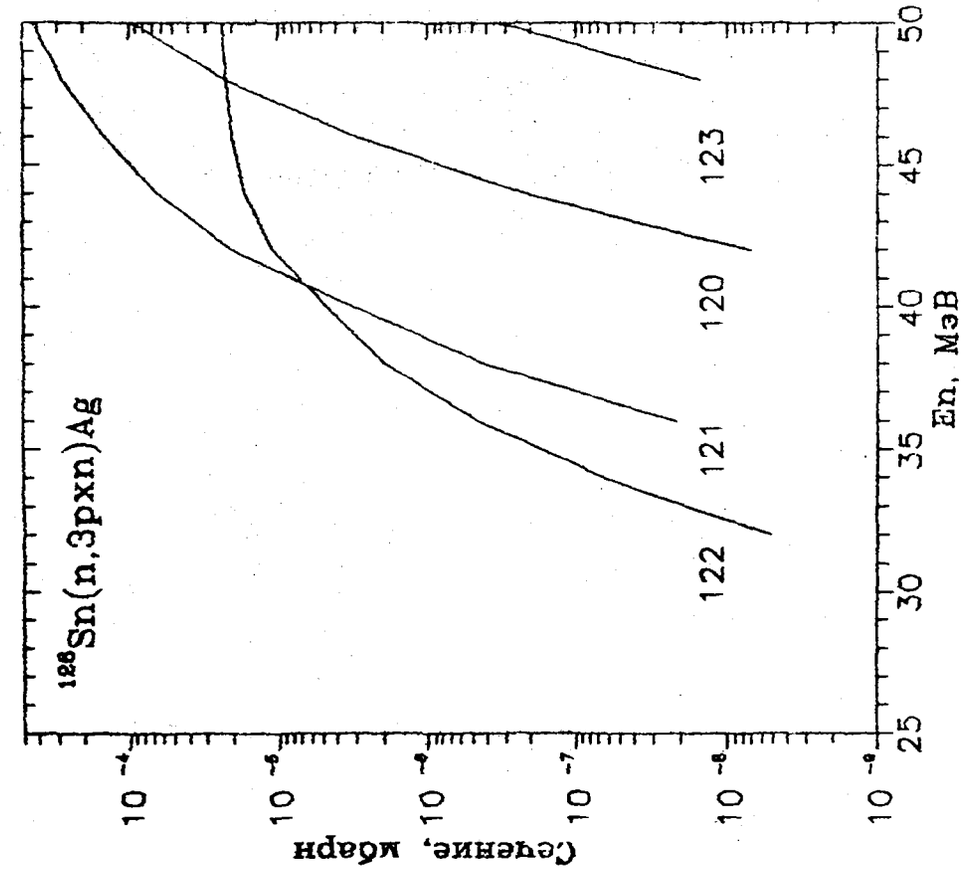


Рис. 39. Функции возбуждения реакции ^{128}Sn(n, 3pxn)Ag

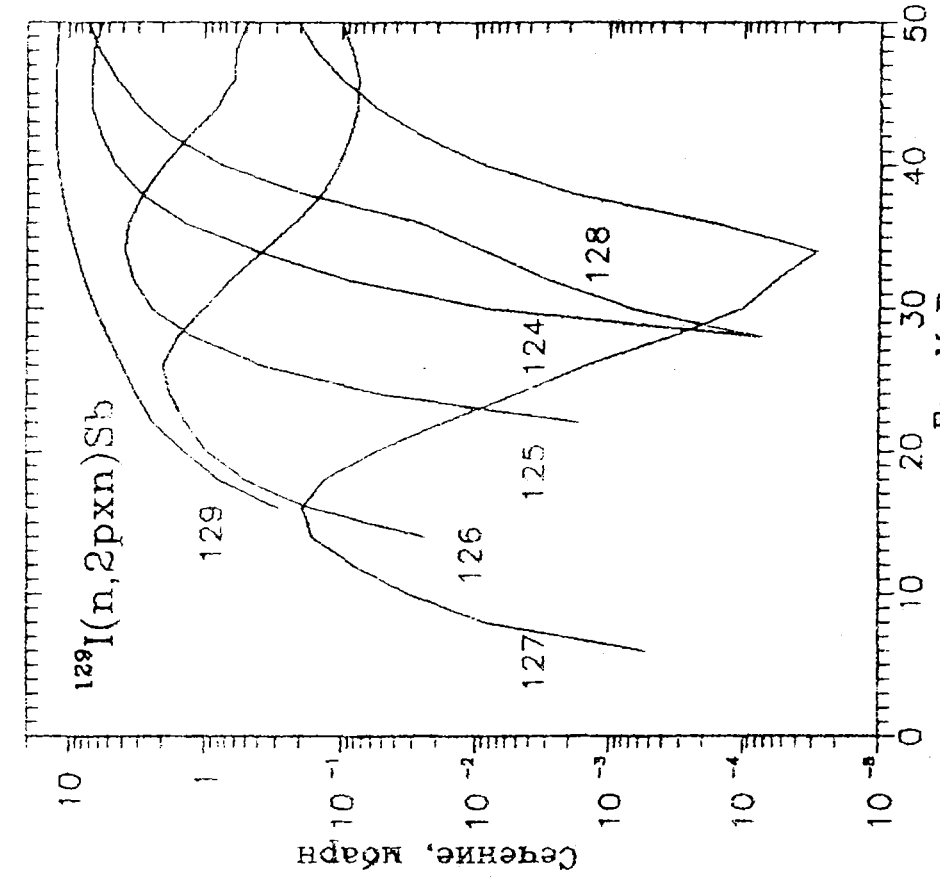


Рис. 42. Функции возбуждения реакции ^{129}I(n,2pxn)Sb

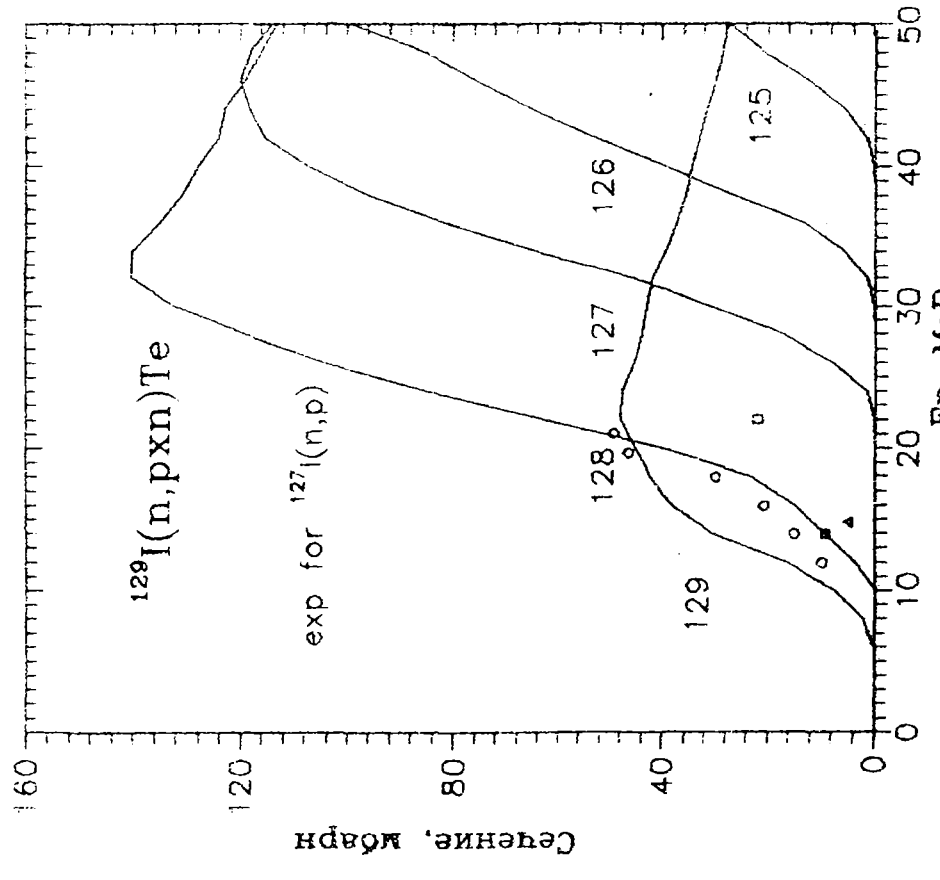


Рис. 41. Фучкции возбуждения реакции ^{129}I(n,pxn)Te

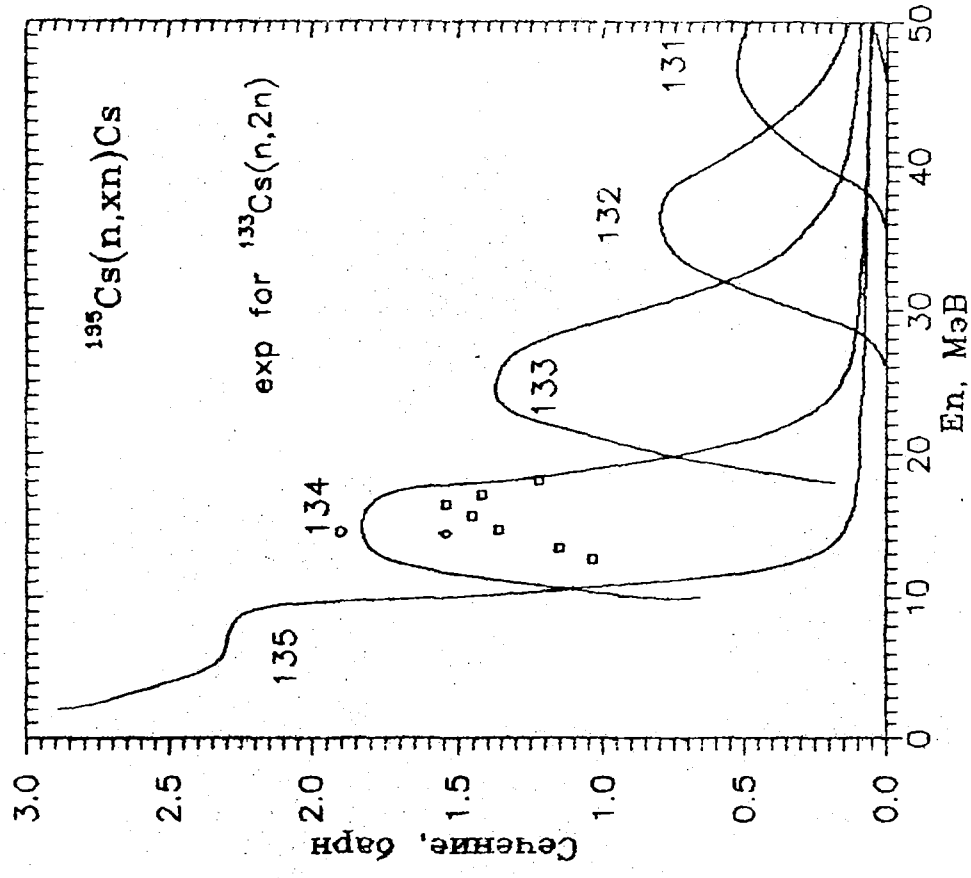


Рис. 44. Функции возбуждения реакции ^{135}Cs(n,xn)Cs

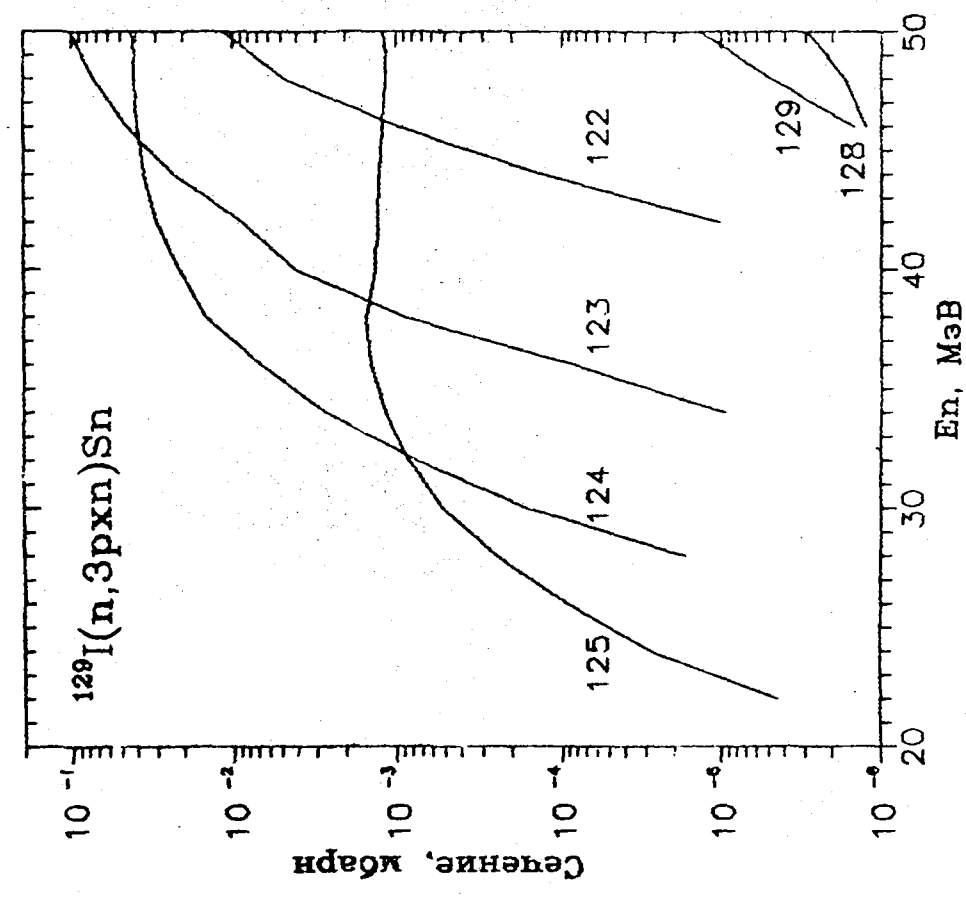


Рис. 43. Функции возбуждения реакции ^{128}I(n,3pxn)Sn

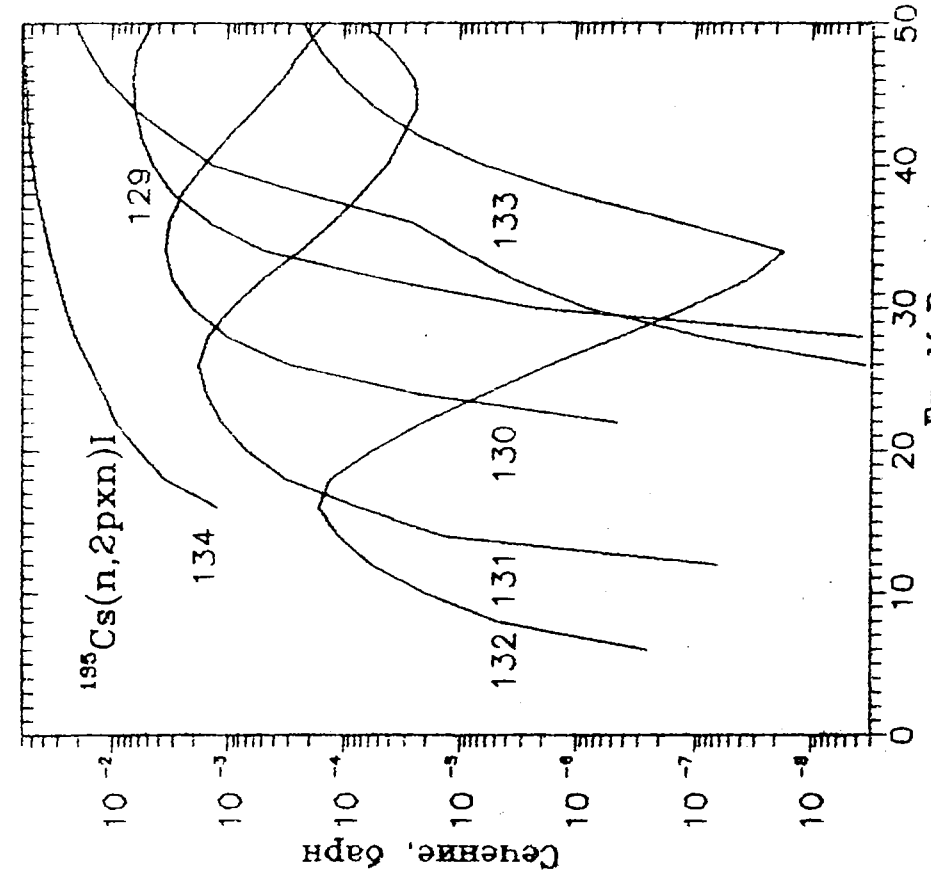


Рис. 46. Функции возбуждения реакции ^{135}Cs(n,2pxn)I

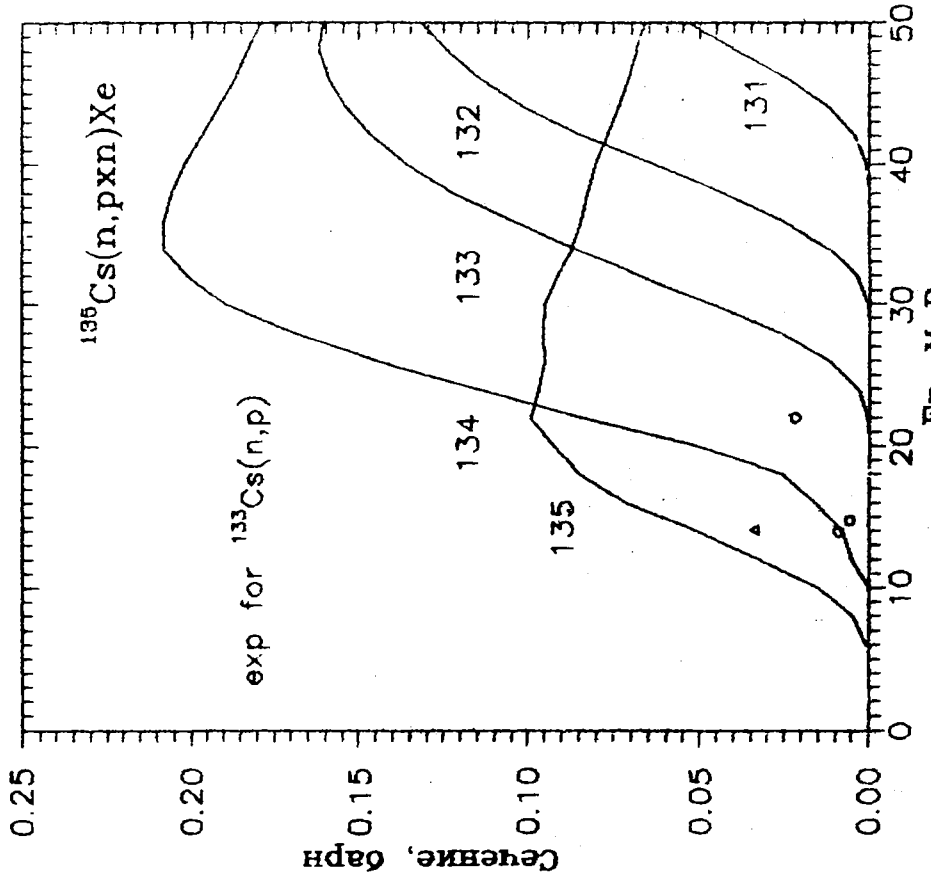


Рис. 45. Функции возбуждения реакции ^{136}Cs(n,pxn)Xe

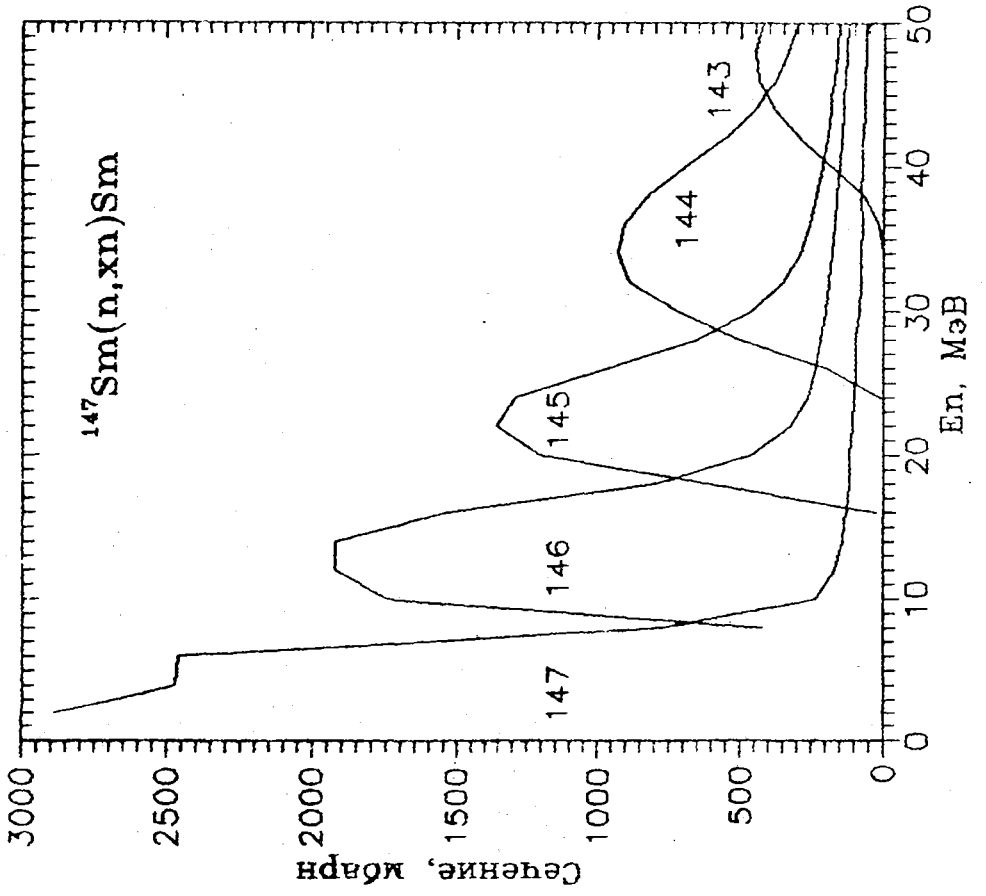


Рис. 48. Функции возбуждения реакции $^{147}Sm(n,xn)Sm$

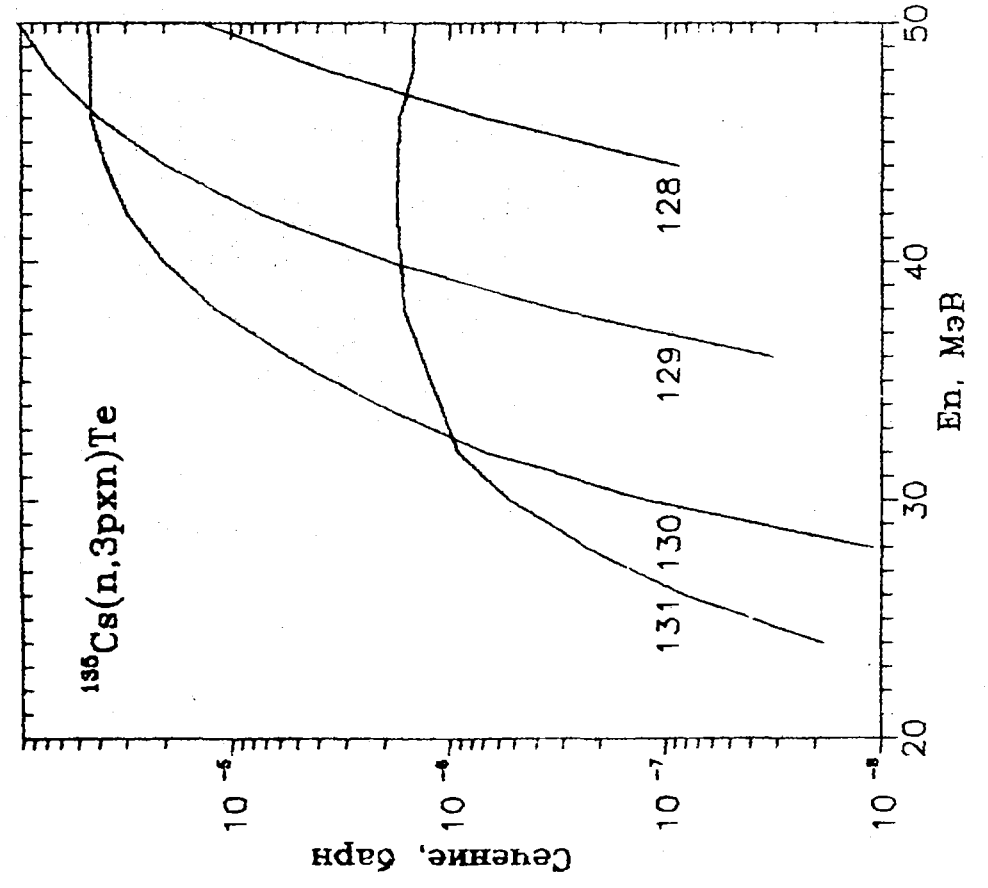


Рис. 47. Функции возбуждения реакции $^{135}Cs(n,3pxn)Te$

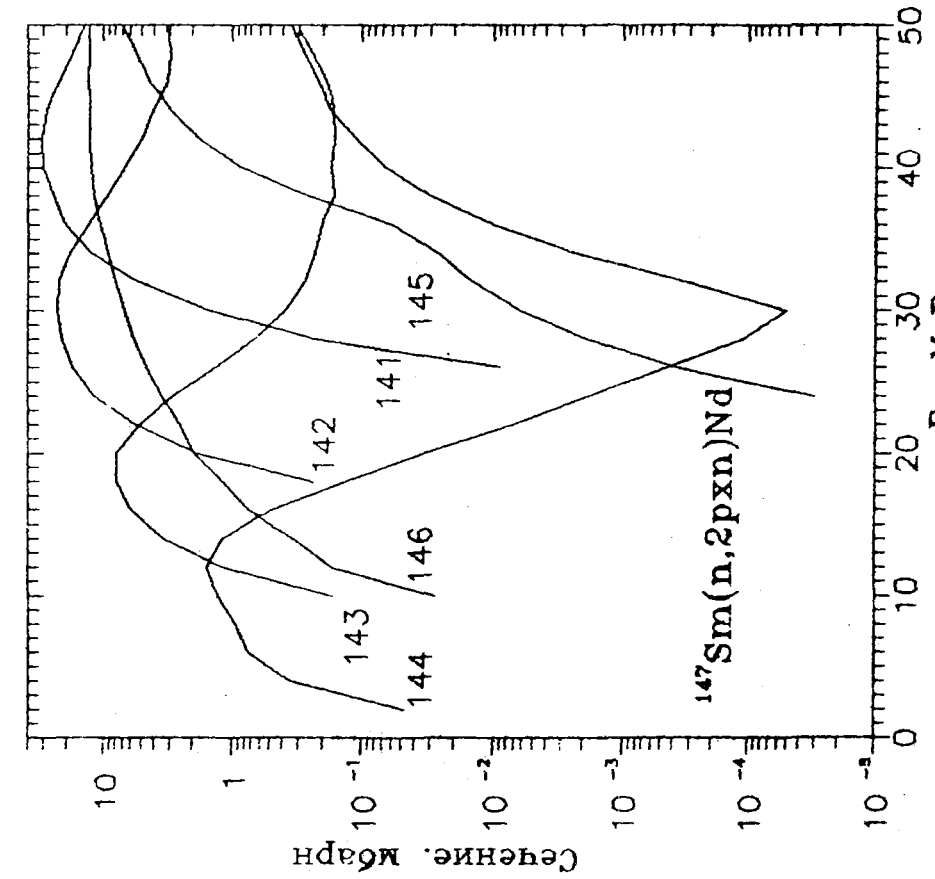


Рис. 50. Функции возбуждения реакции ^{147}Sm(n,2pxn)Nd

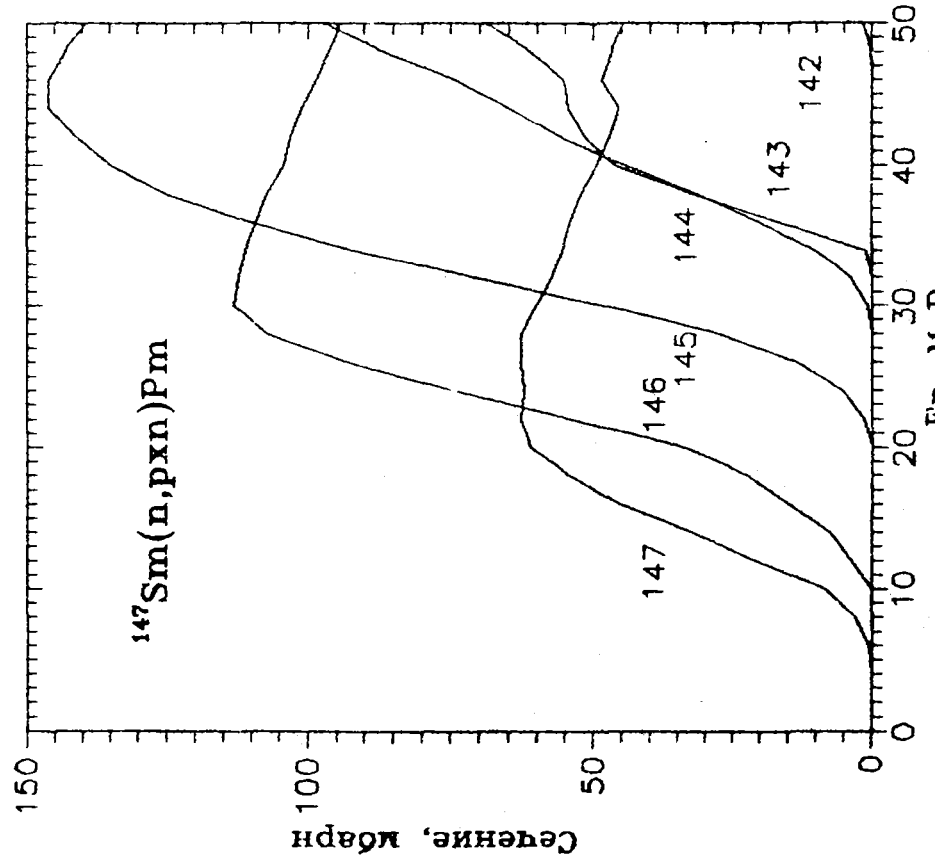


Рис. 49. Функции возбуждения реакции ^{147}Sm(n,pxn)Pm

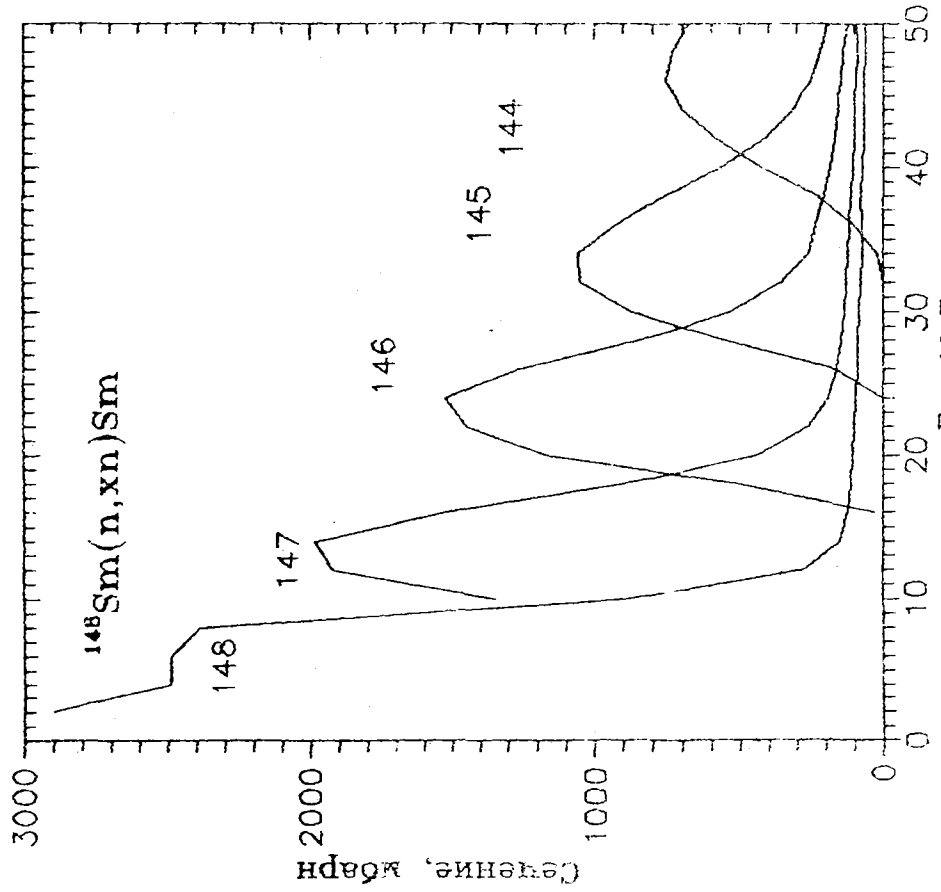


Рис. 52. Функции возбуждения реакции $^{148}Sm(n,xn)Sm$

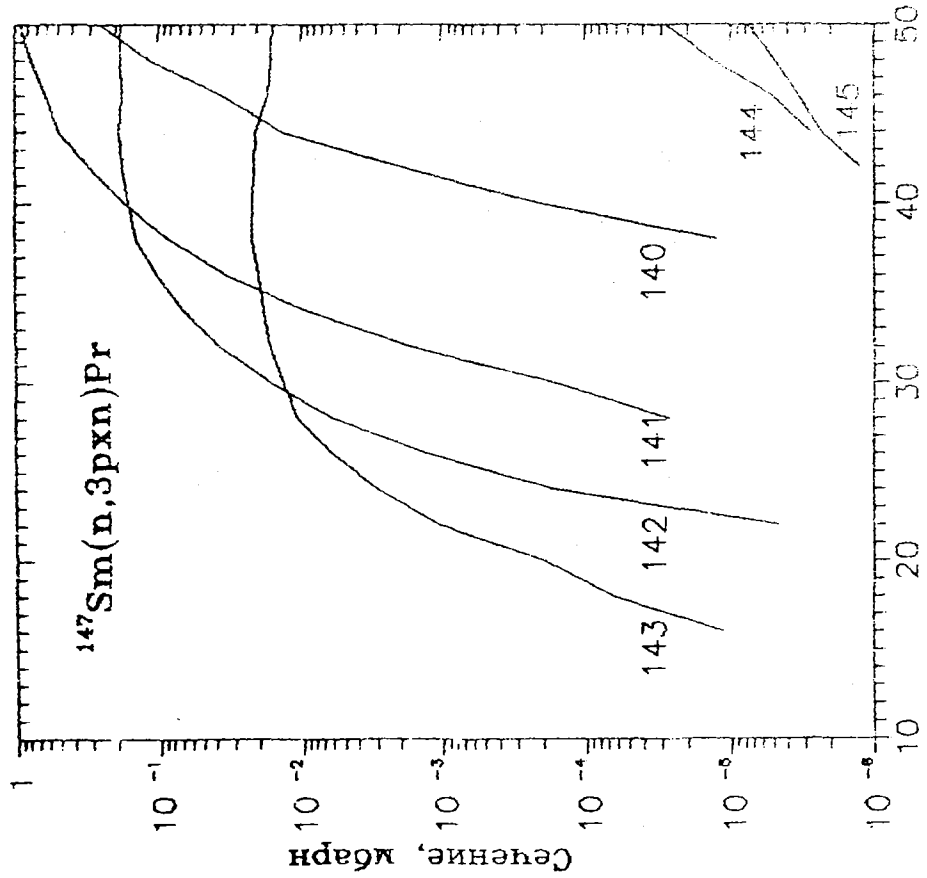


Рис. 51. Функции возбуждения реакции $^{147}Sm(n,3pxn)Pr$

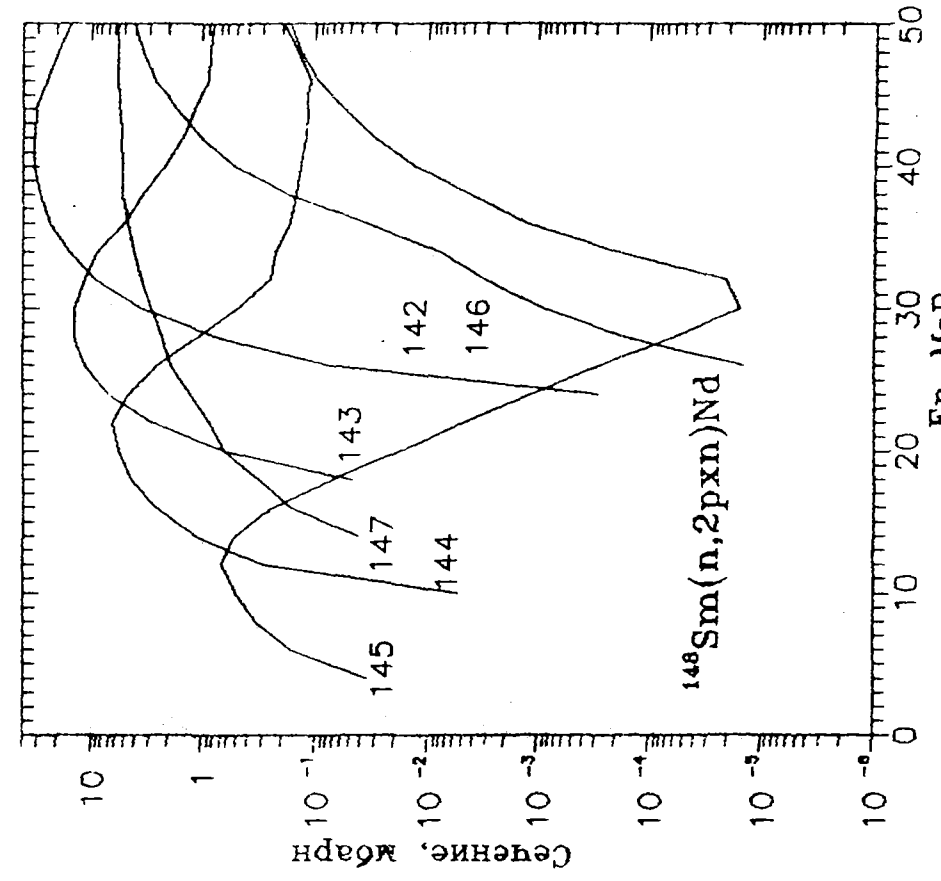


Рис. 54. Функции возбуждения реакции $^{148}Sm(n,2pxn)Nd$

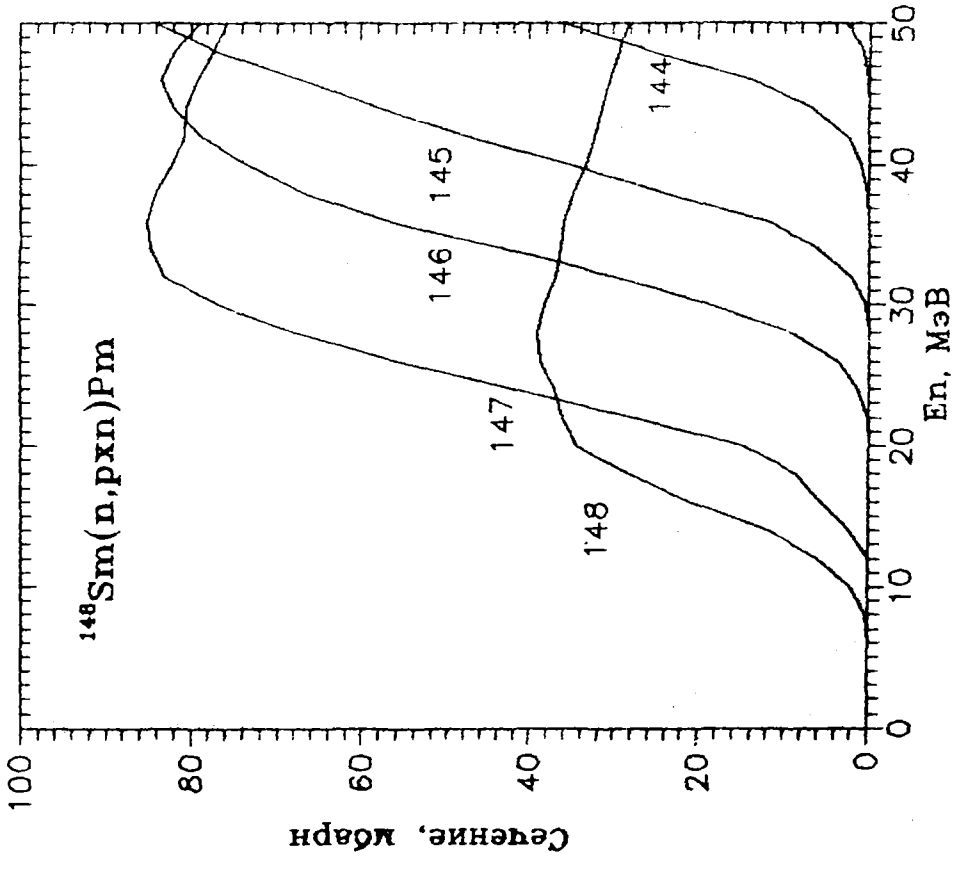


Рис. 53. Функции возбуждения реакции $^{148}Sm(n,pxn)Pm$

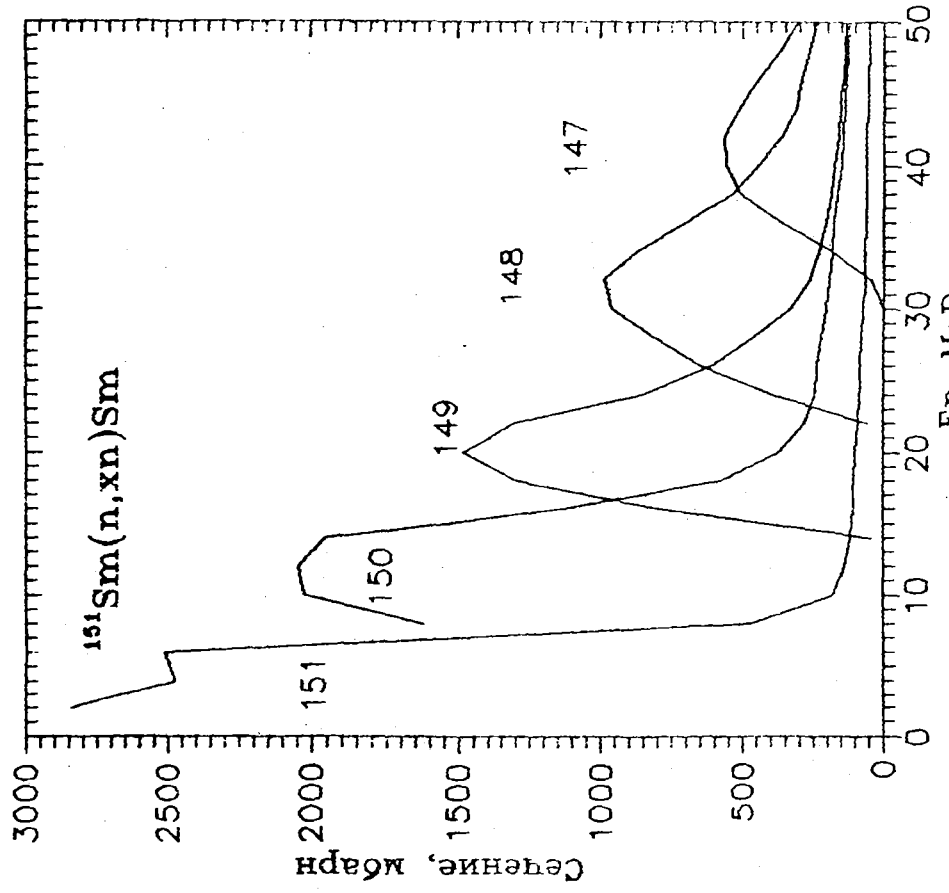


Рис. 56. Функции возбуждения реакции $^{151}Sm(n,xn)Sm$

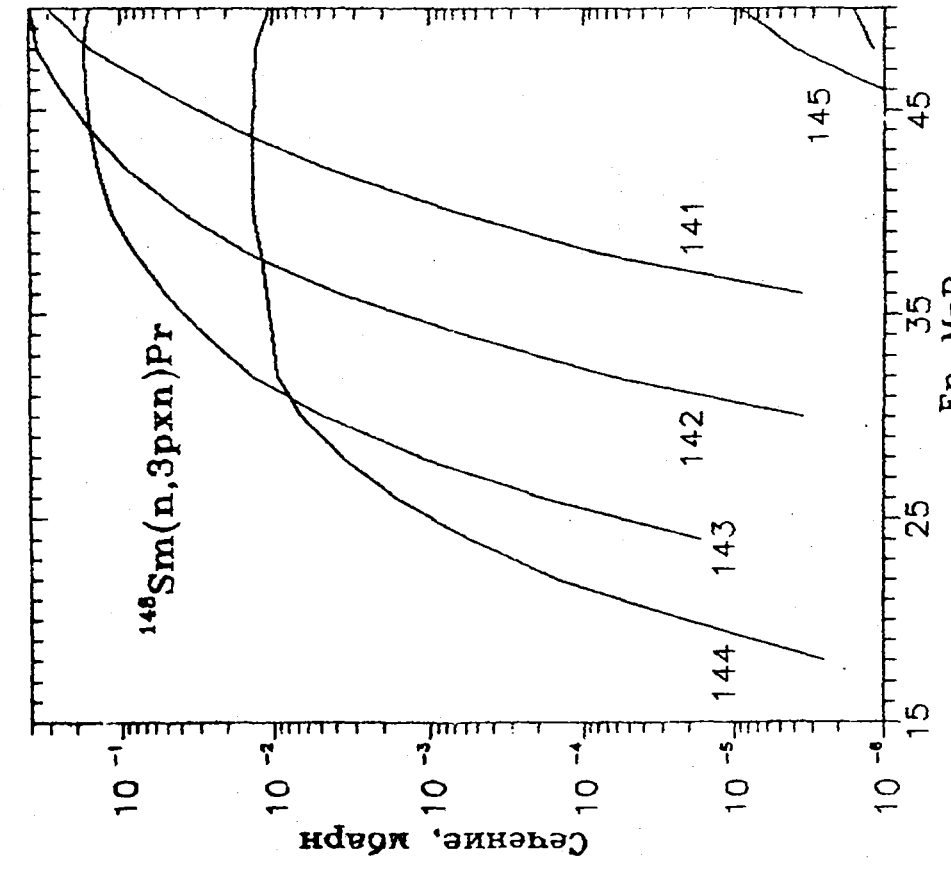


Рис. 55. Функции возбуждения реакции $^{148}Sm(n,3pxn)Pr$

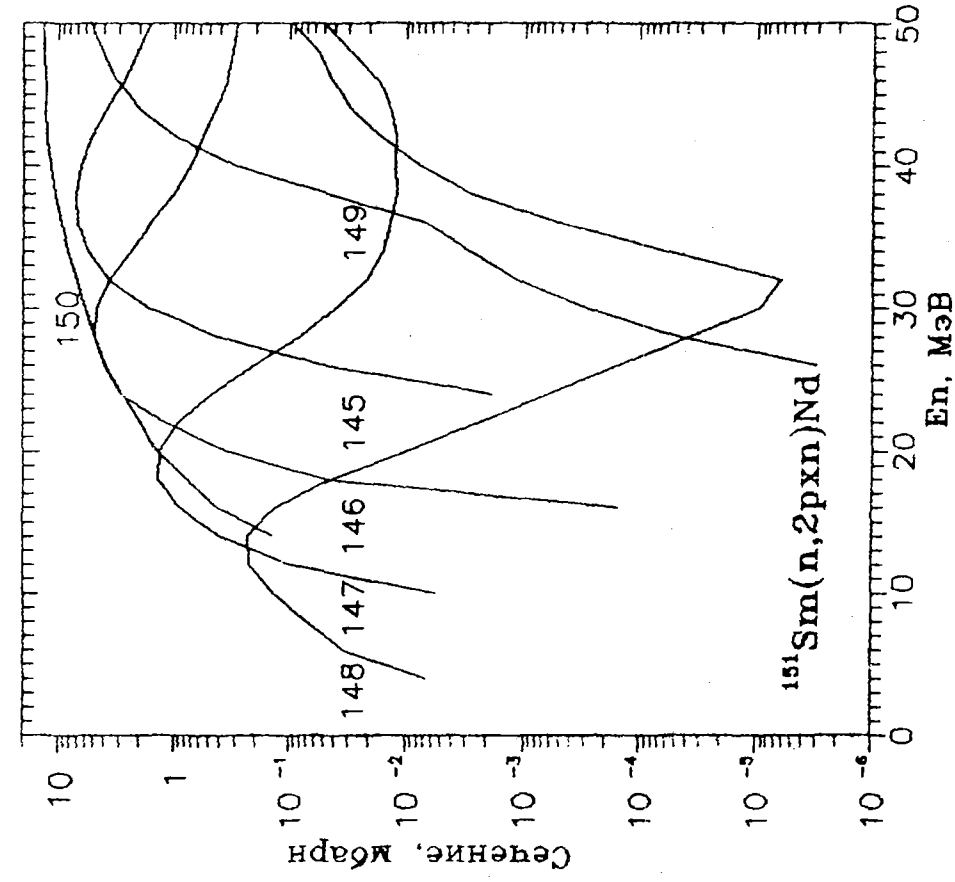


Рис. 58. Функции возбуждения реакции $^{151}Sm(n,2pxn)Nd$

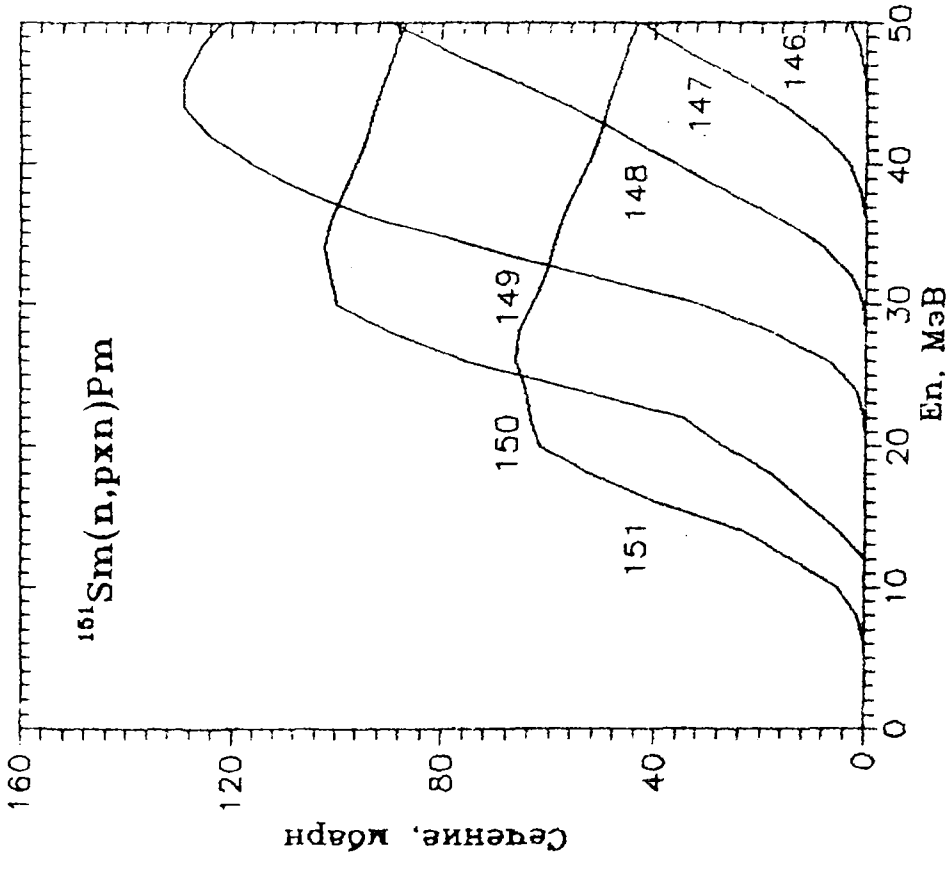


Рис. 57. Функции возбуждения реакции $^{151}Sm(n,pxn)Pm$

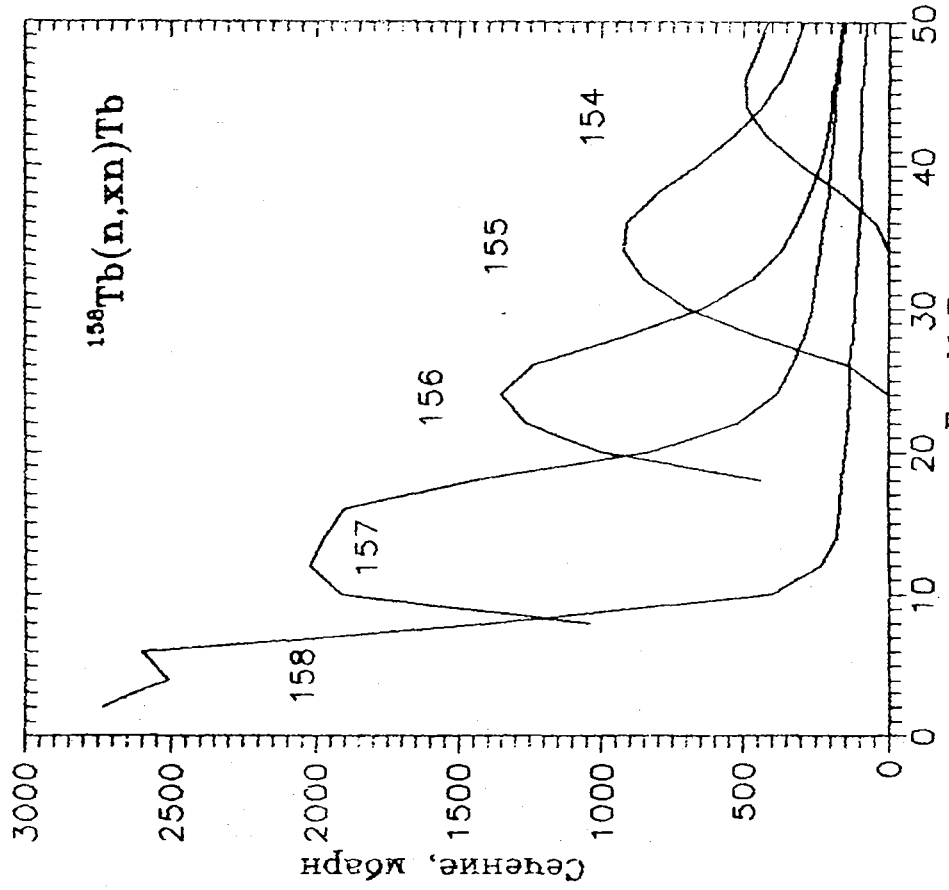


Рис. 60. Функции возбуждения реакции ^{158}Tb(n,xn)Tb

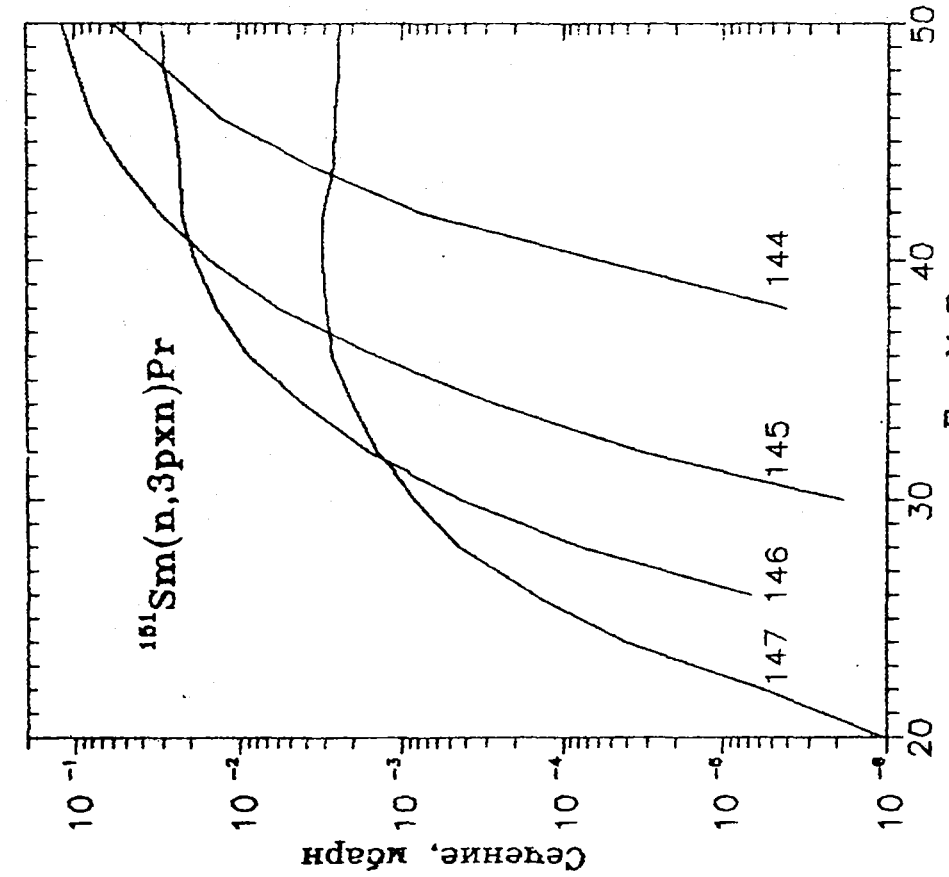


Рис. 59. Функции возбуждения реакции ^{151}Sm(n,3pxn)Pr

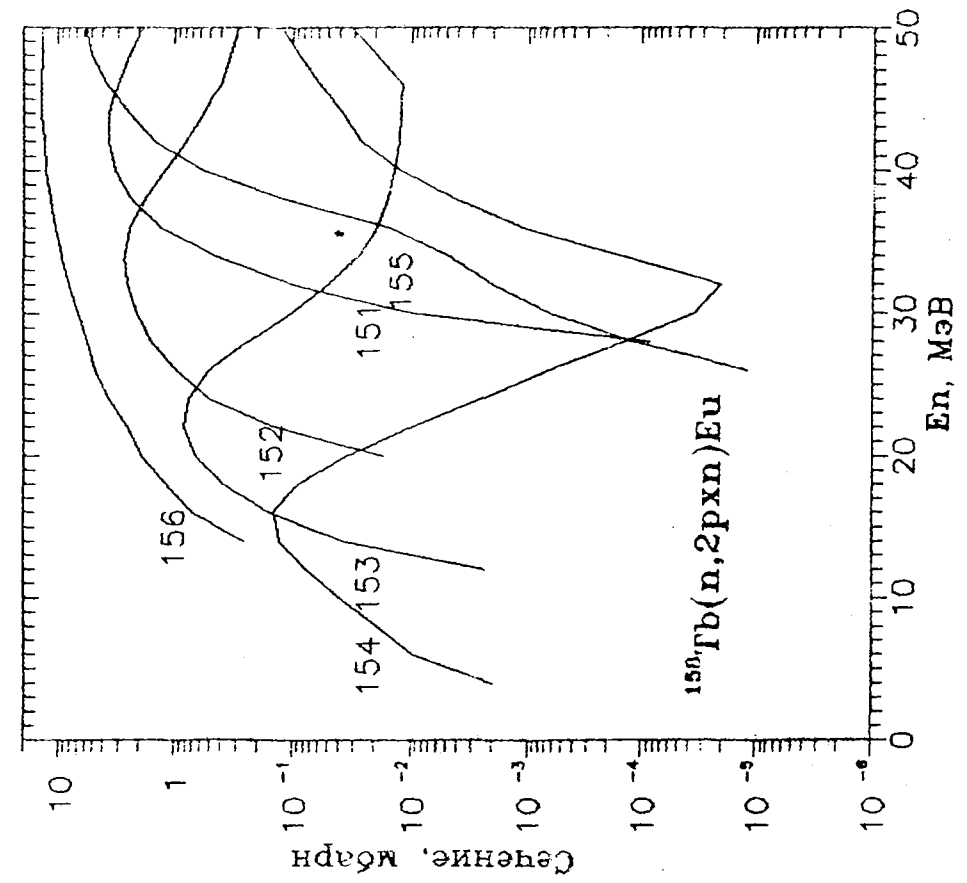


Рис.61. Функции возбуждения реакции ^{158}Tb(n,pxn)Gd

Рис.62. Функции возбуждения реакции ^{158}Tb(n,2pxn)Eu

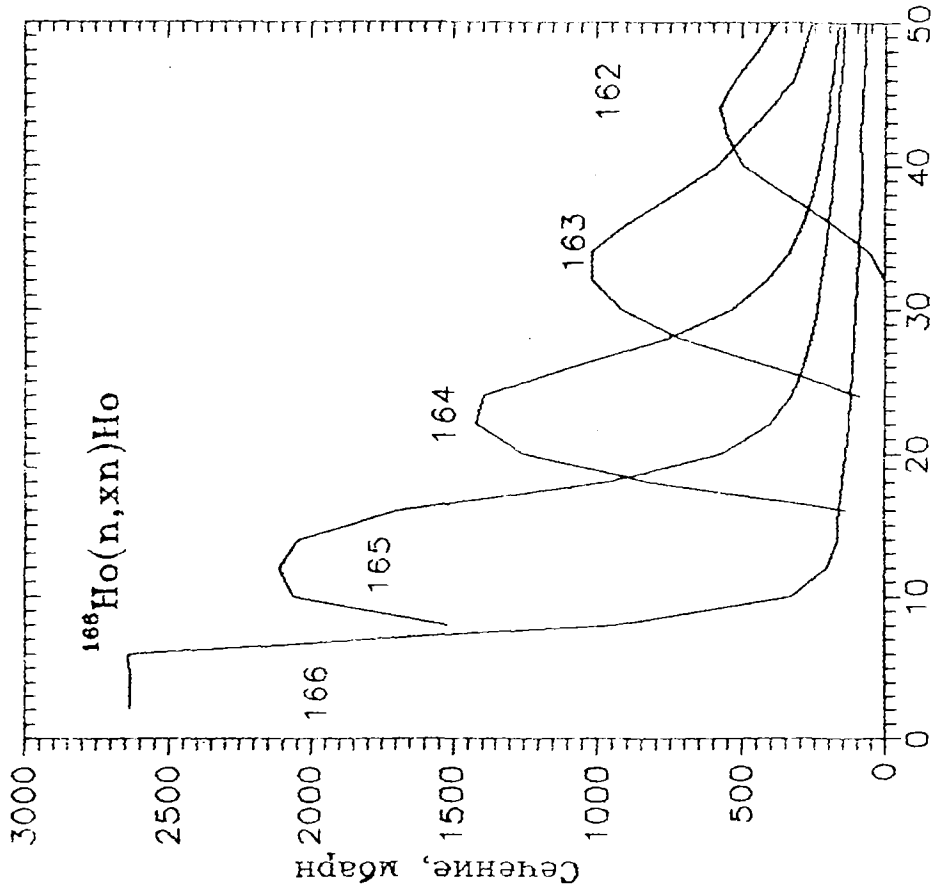


Рис. 64. Функции возбуждения реакции ^{166}Ho(n, xn)Ho

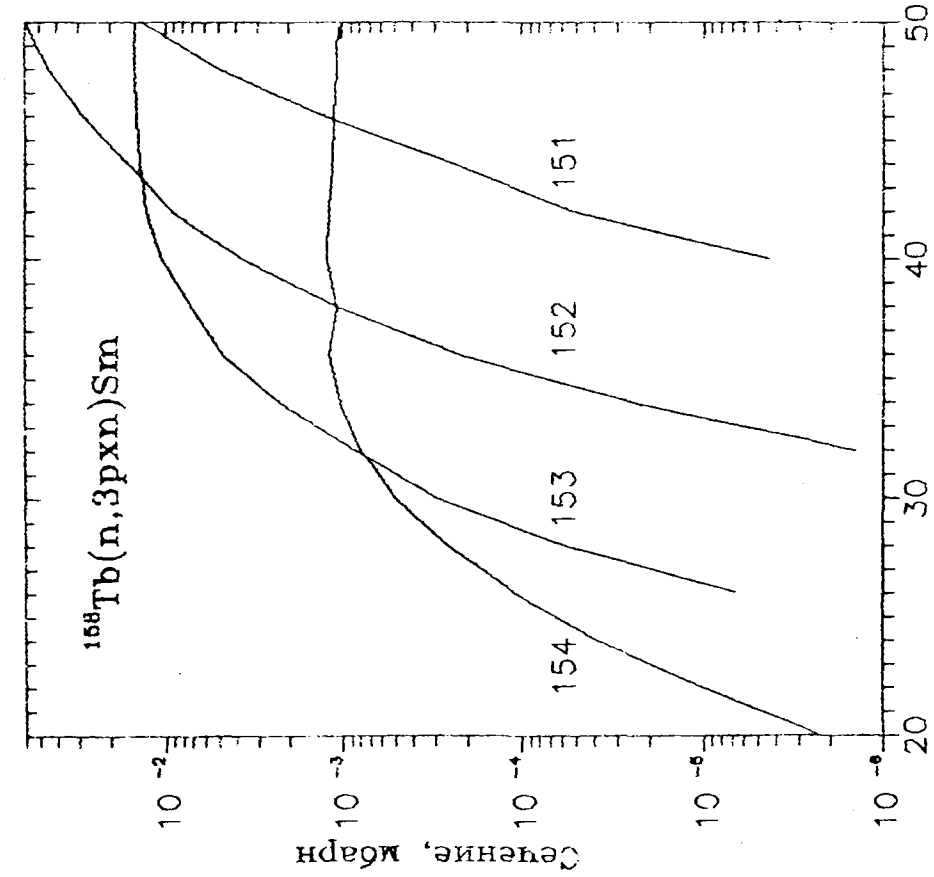


Рис. 63. Функции возбуждения реакции ^{158}Tb(n, 3pxn)Sm

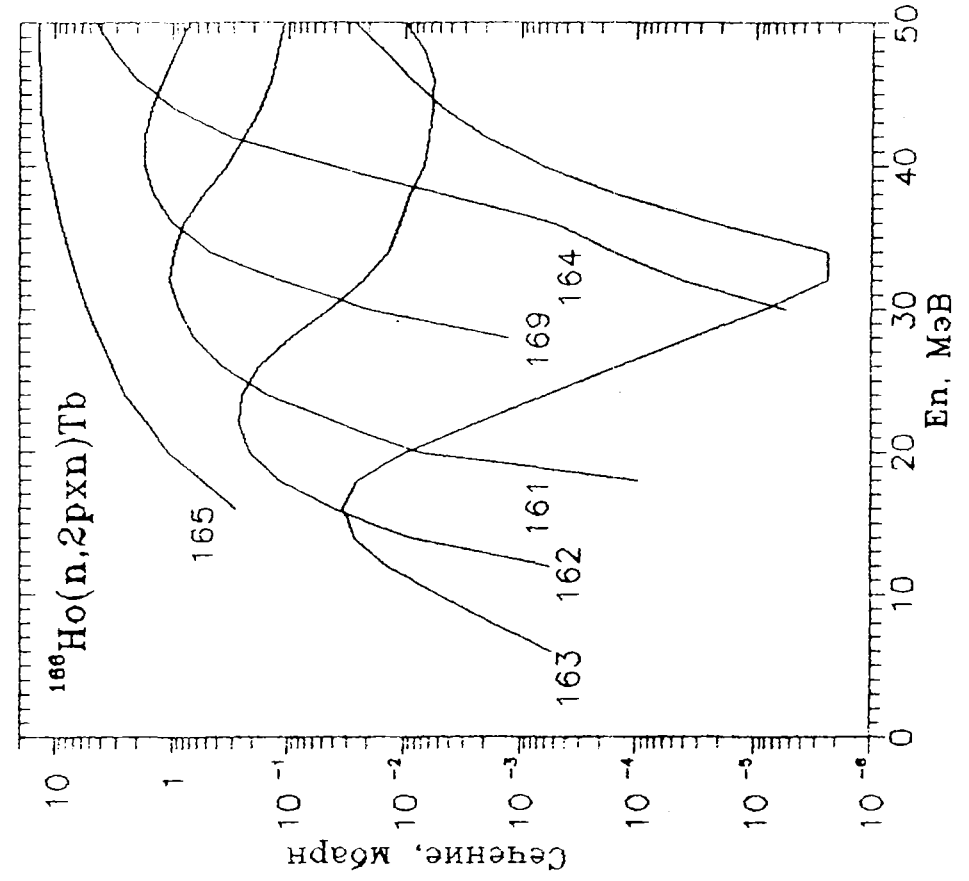


Рис. 66. Функции возбуждения реакции ^{166}Ho(n,2pxn)Tb

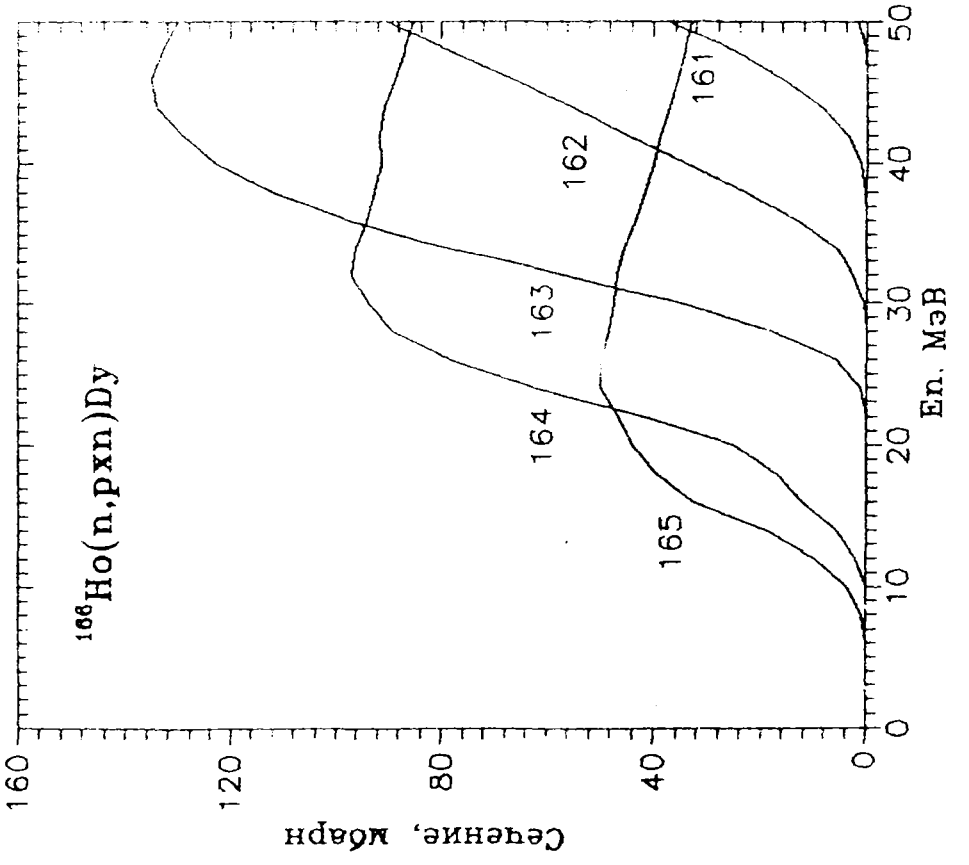


Рис. 65. Функции возбуждения реакции ^{166}Ho(n,pxn)Dy

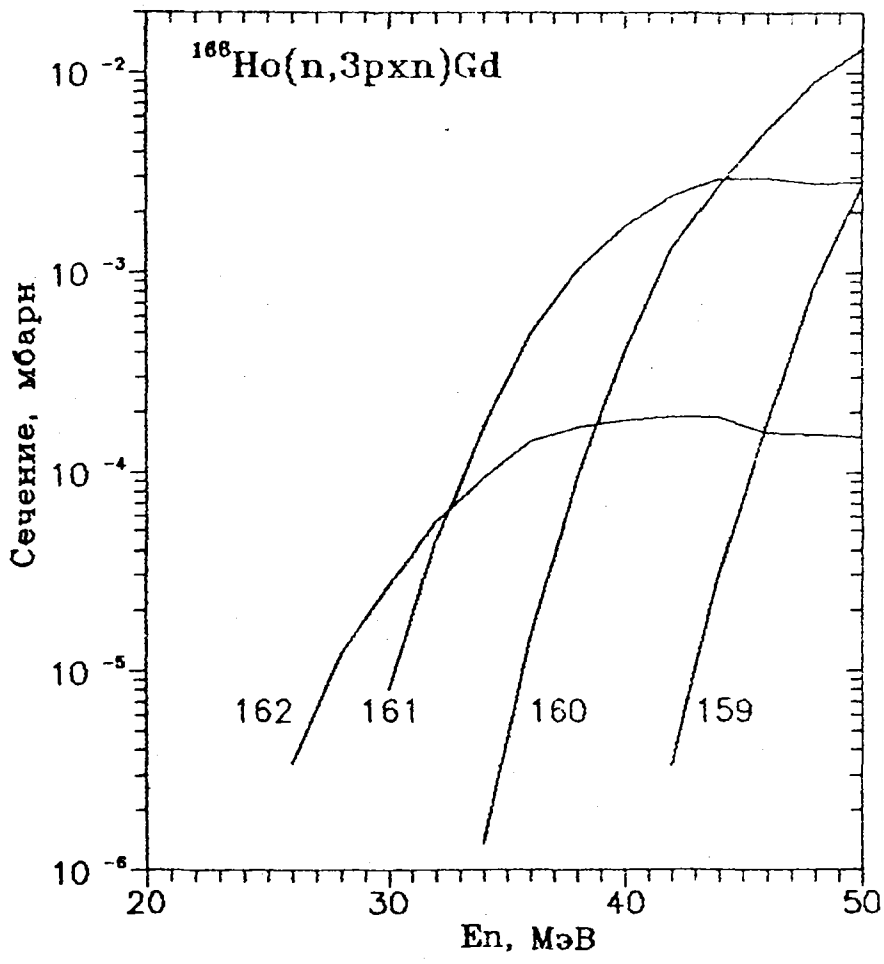


Рис. 67. Функции возбуждения реакции ^{166}Ho(n,3pxn)Gd