


# Center of Nuclear Physics Data



Status report to the NRDC Meeting,  
April 16-19, 2012, Paris

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## EXFOR compilation

TRANS.F043

TRANS.F044

PRELIM.F045

47 new entries

36 corrected entries



## HIGH-RESOLUTION MEASUREMENTS OF ANALOGUE STATES IN $^{53}\text{Mn}$

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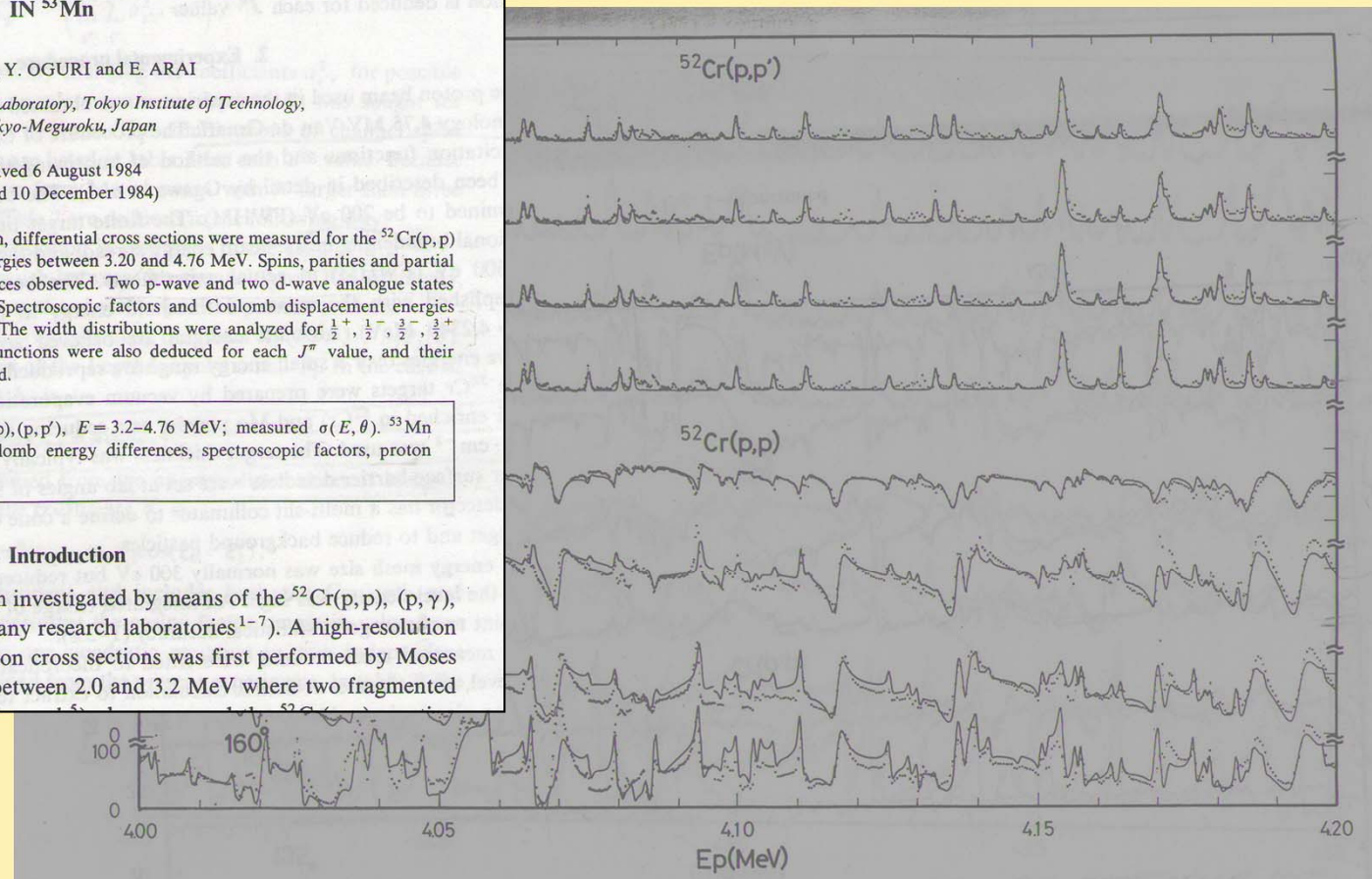
Received 6 August 1984  
(Revised 10 December 1984)

**Abstract:** Using a high-resolution proton beam, differential cross sections were measured for the  $^{52}\text{Cr}(p,p)$  and  $^{52}\text{Cr}(p,p')$  reactions at incident energies between 3.20 and 4.76 MeV. Spins, parities and partial widths were determined for all resonances observed. Two p-wave and two d-wave analogue states were identified in this energy region. Spectroscopic factors and Coulomb displacement energies were extracted for the analogue states. The width distributions were analyzed for  $\frac{1}{2}^+$ ,  $\frac{1}{2}^-$ ,  $\frac{3}{2}^-$ ,  $\frac{3}{2}^+$  and  $\frac{5}{2}^+$  resonances. Proton strength functions were also deduced for each  $J^\pi$  value, and their proton energy dependence was discussed.

NUCLEAR REACTIONS  $^{52}\text{Cr}(p,p)$ ,  $(p,p')$ ,  $E = 3.2\text{--}4.76$  MeV; measured  $\sigma(E, \theta)$ .  $^{53}\text{Mn}$  deduced IAR,  $J$ ,  $\pi$ ,  $\Gamma_p$ ,  $\Gamma_{p'}$ , Coulomb energy differences, spectroscopic factors, proton strength function. Enriched target.

### 1. Introduction

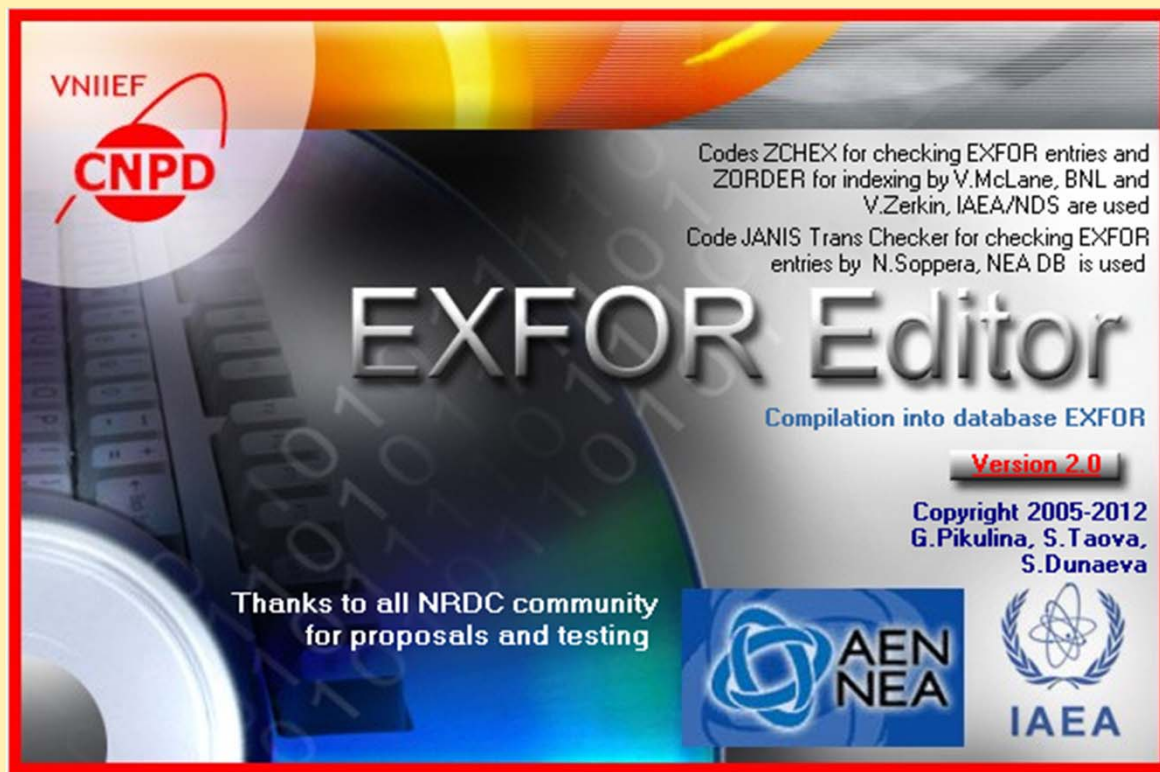
Analogue states in  $^{53}\text{Mn}$  have been investigated by means of the  $^{52}\text{Cr}(p,p)$ ,  $(p,\gamma)$ ,  $(^3\text{He},d)$  or  $(^7\text{Li},^6\text{He})$  reactions in many research laboratories<sup>1-7</sup>. A high-resolution measurement of the  $^{52}\text{Cr}(p,p)$  reaction cross sections was first performed by Moses *et al.*<sup>4</sup>) at incident proton energies between 2.0 and 3.2 MeV where two fragmented



**F1060 - 27 989 points**

(Y.Ozawa, Y.Oguri, E.Arai, J,NP/A,440,13,1985)

## EXFOR-Editor



ZCHEX  
ZORDER, (NDS, IAEA,  
Austria, USA)

JANIS Trans Checker,  
(NEA DATA BANK,  
France)



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Memo CP-F/006

**Date:** 15 March  
**To:** Distribution  
**From:** S. Taova, G. Pikulina

**Subject:** Revision of "EXFOR processing and retrieval codes" (Action 50 of Conclusions and Actions of the 2011 NRDC meeting)

According to the decision of the 2011 NRDC meeting (Conclusions and Actions..., Action 50 – "Propose revision of "EXFOR processing and retrieval codes" in the NRDC Protocol for future co-operation in software development between centers") it is proposed to add the text below to the existing section.

"The Centre can request the originating Centre to include the original code in a form of standalone executable module to the developed software for collective using in the community. The Centre can also request the originating Centre to make some changes in the original code to adapt it to the existing software.

If the Centre wins the consent it becomes responsible for tracing the last release of original code and including it to the developed software when generating the new version.

Questions regarding the necessity and possibility of jointly used software could be included in the agenda of the incoming NRDC meeting for discussion. For this purpose the proposals should be sent out at least four weeks prior to the meeting date".

This addition should regulate the relationship between the centers when changing the standalone executable modules (a new kind of software cooperation) for

## 61 Meeting on Nuclear Spectroscopy and Nuclear Structure “Nucleus-2011”

Sarov, October 10-14, 2011.

### **Scientific Program:**

Properties of nucleus (theory and experiment);

Experimental Investigations of Nuclear Reactions;

Theory of Nuclear Reactions;

Fundamental Researches in Nuclear Physics;

Investigations by radioactive beams;

Methods and Techniques of Nuclear Experiments;

**Nuclear Data in Advanced Technologies.**

## **“Nucleus – 2011”**

1. S.N. Abramovich, S.M. Taova “Analysis of experimental data on the key thermonuclear reactions going within the low energy range”.
  2. L.N. Generalov, V.A. Zherebtsov, S.M. Taova “ Optical model program code OptModel”.
  3. G.N. Pikulina, C.M. Taova, S.A. Dunaeva “Optimization and ensuring of validation for format of data input into the international library EXFOR by software package Exfor-Editor”.
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Р. Ф. Я. Ц.  
ВНИИЭФ

**Участники международной конференции “Ядро 2011”  
РФЯЦ–ВНИИЭФ г. Саров 10–14 октября 2011 г.**















