

ITRAMU Workshop: Nuclear Data for the Transmutation of Nuclear Waste
September 2 - September 5 2003, GSI-Darmstadt, Germany
Experiments, models and data libraries above 20 MeV

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Presentations

- Low-energy nuclear data and applications (see Kawano/Cheng): 37 papers
- Nuclear data below 200 MeV (nuclear data libraries, measurements and model codes): 21 papers
- Nuclear data above 200 MeV (measurements and intranuclear cascade codes): 30 papers



TRAMU@GSI
September 1-5, 2003

Workshop on Nuclear Data for the Transmutation of Nuclear Waste

- Nuclear Science and Technology in the Service of Mankind -

Topics:

- Nuclear-reaction data
- Evaluated data & libraries
- Modelling of nuclear reactions
- Experimental facilities and methods

International Advisory Board:

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Data below 200 MeV

- - 1994: No generally useful intermediate energy data files. Transport calculations performed with 20 MeV data libraries and LAHET for neutrons above 20 MeV. Proton transport with LAHET for all energies.
- 1994-1998: LA-150 neutron and proton libraries for several non-fissile materials important for APT design: C, N, O, Al, Si, Ca, Cr, Fe, Ni, Cu, W, Hg, Pb, Bi. NRG/CEA: Fe, Ni.
- 1997-2001: FZK/IPPE, JAERI: 50 MeV data files for fusion
- 1998-2000: IPPE 150 MeV data files for ^{232}Th , ^{238}U , ^{239}Pu .
- 2000-2003: HINDAS 200 MeV neutron and proton data files for Fe, Pb and ^{238}U . (+ Ca, Sc, Ge and Bi for other projects)
 - New measurements
 - New nuclear model code developments

Available experimental data

Energy	Tot	El	n,n'	n,2n	n, γ	n,xn	n,p	n, α	n,xp	n,x α	p,xn	p,xp	p,x α	n,x	p,x
0 - 1	X	X	X		X									X	
1 - 2	X	X	X		X									X	
2 - 4	X	X	X				X	X						X	
6 - 8	X	X					X	X						X	
8 - 10	X	X					X	X						X	
10 - 15	X	X	X	X	X		X	X						X	XH
15 - 20	X	X		X		X	X	X						X	XH
20 - 30	X	X		X		X		X			X		X	XH	XH
30 - 40	X	X												H	XH
40 - 60	X										X		X	H	XH
60 - 80	X										X		X	H	XH
80 - 100	X	H									X		X	H	XH
100 - 120	X										X			H	XH
120 - 140	X											H		H	XH
140 - 160	X										X			H	XH
160 - 180	X													H	XH
180 - 200	X													H	XH

Table 1: Available experimental data

62.7 MeV $^{\text{nat}}\text{U}(\text{n},\text{xp})$

Angle-integrated spectrum





