

$^{90}\text{Zr}(t,p)$  1975Ip01,1974F102

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Coral M. Baglin	NDS 113, 2187 (2012)	15-Sep-2012

**1974F102:** E(t)=20 MeV; enriched metallic foil target; measured  $\sigma(\theta)$  At  $\theta(\text{lab})=12^\circ-72^\circ$  ( $3^\circ$  steps) using Si  $\Delta E$  and Li-drifted Si E detectors (FWHM $\approx$ 40 keV; particle identification); magnetic spectrograph used At several angles (FWHM=18 keV) to check for doublets;  $\Delta E=8$  keV.

**1975Ip01:** E(t)=11.85 MeV; 97.8% enriched  $^{90}\text{Zr}$  oxide target; multichannel magnetic spectrograph (FWHM=16 keV,  $\theta(\text{lab})=5^\circ-87.5^\circ$ ,  $\Delta E=10$  keV). DWBA analysis of  $\sigma(\theta)$  to determine L.

 $^{92}\text{Zr}$  Levels

E(level) <sup>†</sup>	L	E(level) <sup>†</sup>	L	E(level) <sup>†</sup>	L	E(level) <sup>†</sup>	L
0.0	0	2479 <sup>10</sup>	5	3304 <sup>10</sup>	6	3786 <sup>‡</sup> <sup>10</sup>	(4) <sup>&amp;</sup>
936 <sup>10</sup>	2	2812 <sup>‡</sup> <sup>10</sup>	2	3360 <sup>10</sup>	(1)	3898? <sup>@</sup> <sup>10</sup>	
1382 <sup>10</sup>	0	2857 <sup>10</sup>	4	3451 <sup>10</sup>	(4) <sup>&amp;</sup>	3992 <sup>#</sup> <sup>10</sup>	0+(2)
1497 <sup>10</sup>	4	2900 <sup>‡</sup> <sup>10</sup>	0	3492 <sup>‡</sup> <sup>10</sup>	2	4031 <sup>10</sup>	4
1847 <sup>10</sup>	2	2954 <sup>10</sup>	6	3589 <sup>#</sup> <sup>10</sup>	0+(5)	4071 <sup>10</sup>	4
2065 <sup>10</sup>	2	3034 <sup>‡</sup> <sup>10</sup>		3623 <sup>#</sup> <sup>10</sup>	2+(4)	4161 <sup>‡</sup> <sup>10</sup>	4
2333 <sup>10</sup>	3	3049 <sup>10</sup>	2	3703 <sup>10</sup>	(4) <sup>&amp;</sup>	4283 <sup>‡</sup> <sup>10</sup>	0
2395 <sup>‡</sup> <sup>10</sup>	4	3228 <sup>10</sup>	3,4	3760 <sup>10</sup>	2	4332 <sup>‡</sup> <sup>10</sup>	2

<sup>†</sup> From 1975Ip01. These energies are typically 5-10 keV lower than adopted values, whereas those from 1974F102 are systematically higher than adopted values by an amount which increases with increasing excitation energy ( $\approx$ 20 keV at 3.3 MeV).

<sup>‡</sup> Absent in data from 1974F102.

<sup>#</sup> Unresolved doublet.

<sup>@</sup> Reported in 1974F102 only. Evaluator considers existence of level uncertain. Authors'  $\Delta E=8$  keV unrealistic; actual energy probably  $\approx$ 30 keV lower than reported (see comment on level energies for this reaction).

<sup>&</sup> DWBA fit to  $\sigma(\theta)$  could not unambiguously distinguish between L=3 and L=4; authors favor the latter based on L=2 observed for these levels in (d,p) (1975Ip01).