

$^{240}\text{Pu}(\text{d},\text{d}') \quad 1975\text{Th11}$ 

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh, E. Browne		NDS 109, 2439 (2008)	31-Jul-2008

**1975Th11:** E=16 MeV. Cross sections measured at 90° and 125°; FWHM  $\approx$  14 keV. Deduced B(EL) values normalized to Coulomb excitation results.

 $^{240}\text{Pu}$  Levels

E(level)	$J^\pi$ <sup>†</sup>	Comments
0	0 <sup>+</sup>	$d\sigma/d\Omega=50$ mb/Sr (90°), 10.4 mb/Sr (125°).
45 1	2 <sup>+</sup>	$d\sigma/d\Omega=8.28$ mb/Sr (90°), 3.76 mb/Sr (125°).
142 1	4 <sup>+</sup>	$d\sigma/d\Omega=0.54$ mb/Sr (90°), 0.37 mb/Sr (125°).
292 1	6 <sup>+</sup>	$d\sigma/d\Omega=54$ $\mu\text{b}/\text{sr}$ (90°), 73 $\mu\text{b}/\text{sr}$ (125°).
497 2	8 <sup>+</sup>	$d\sigma/d\Omega=8$ $\mu\text{b}/\text{sr}$ (90°,125°).
596 2	1 <sup>-</sup>	$d\sigma/d\Omega=28$ $\mu\text{b}/\text{sr}$ (90°), 48 $\mu\text{b}/\text{sr}$ (125°).
649 1	3 <sup>-</sup>	B(E3) $\uparrow=0.41$ $d\sigma/d\Omega=289$ $\mu\text{b}/\text{sr}$ (90°), 128 $\mu\text{b}/\text{sr}$ (125°).
742 1	5 <sup>-</sup>	$d\sigma/d\Omega=21$ $\mu\text{b}/\text{sr}$ (90°), 30 $\mu\text{b}/\text{sr}$ (125°).
939 3	2 <sup>+</sup>	B(E2) $\uparrow=0.03$ 2 $d\sigma/d\Omega=9$ $\mu\text{b}/\text{sr}$ (90°), 11 $\mu\text{b}/\text{sr}$ (125°).
1001 1	3 <sup>-</sup>	B(E3) $\uparrow=0.23$ $J^\pi$ : (1 <sup>-</sup> ) in 'Adopted Levels'. $d\sigma/d\Omega=146$ $\mu\text{b}/\text{sr}$ (90°), 81 $\mu\text{b}/\text{sr}$ (125°).
1077 4		$d\sigma/d\Omega=22$ $\mu\text{b}/\text{sr}$ (90°), 17 $\mu\text{b}/\text{sr}$ (125°).
1118 5	(5 <sup>-</sup> )	$d\sigma/d\Omega=14$ $\mu\text{b}/\text{sr}$ (90°), 15 $\mu\text{b}/\text{sr}$ (125°).
1135 2	(2 <sup>+</sup> )	B(E2) $\uparrow=0.10$ 3 $d\sigma/d\Omega=66$ $\mu\text{b}/\text{sr}$ (90°), 31 $\mu\text{b}/\text{sr}$ (125°).
1199 2		$d\sigma/d\Omega=12$ $\mu\text{b}/\text{sr}$ (90°), 7 $\mu\text{b}/\text{sr}$ (125°).
1224 3	(1 <sup>-</sup> )	$J^\pi$ : (2 <sup>+</sup> ) in 'Adopted Levels'. $d\sigma/d\Omega=29$ $\mu\text{b}/\text{sr}$ (90°), 22 $\mu\text{b}/\text{sr}$ (125°).
1282 2	(3 <sup>-</sup> )	B(E3) $\uparrow=0.26$ $d\sigma/d\Omega=122$ $\mu\text{b}/\text{sr}$ (90°), 96 $\mu\text{b}/\text{sr}$ (125°).
1379 4		$d\sigma/d\Omega=6$ $\mu\text{b}/\text{sr}$ (125°).
1407 3		$d\sigma/d\Omega=19$ $\mu\text{b}/\text{sr}$ (125°).
1538 3		$d\sigma/d\Omega=17$ $\mu\text{b}/\text{sr}$ (125°).
1574 2		$d\sigma/d\Omega=33$ $\mu\text{b}/\text{sr}$ (90°), 21 $\mu\text{b}/\text{sr}$ (125°).
1609 6		$d\sigma/d\Omega=22$ $\mu\text{b}/\text{sr}$ (90°), 8 $\mu\text{b}/\text{sr}$ (125°).
1641 5		$d\sigma/d\Omega=16$ $\mu\text{b}/\text{sr}$ (90°), 12 $\mu\text{b}/\text{sr}$ (125°).
1675 2		$d\sigma/d\Omega=70$ $\mu\text{b}/\text{sr}$ (90°), 37 $\mu\text{b}/\text{sr}$ (125°).
1752 3		$d\sigma/d\Omega=47$ $\mu\text{b}/\text{sr}$ (90°), 35 $\mu\text{b}/\text{sr}$ (125°).
1784 3		$d\sigma/d\Omega=20$ $\mu\text{b}/\text{sr}$ (90°), 17 $\mu\text{b}/\text{sr}$ (125°).
1861 3		$d\sigma/d\Omega=25$ $\mu\text{b}/\text{sr}$ (90°), 19 $\mu\text{b}/\text{sr}$ (125°).
1902 3		$d\sigma/d\Omega=37$ $\mu\text{b}/\text{sr}$ (90°), 19 $\mu\text{b}/\text{sr}$ (125°).
1923 3		$d\sigma/d\Omega=45$ $\mu\text{b}/\text{sr}$ (90°), 34 $\mu\text{b}/\text{sr}$ (125°).

<sup>†</sup> Assignments are from [1975Th11](#) and are based on the cross-section pattern of the levels and the rotational energy spacing. The assignments are the same in 'Adopted Levels', except that above 750 keV, there are some discrepancies which are pointed out.