^{210}Po(d,t),(p,d) 1979Bh01

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	J. Chen [#] and F. G. Kondev	NDS 126, 373 (2015)	30-Sep-2013

Target ^{210}Po J^{π}(g.s.)=0^+.

1979Bh01: E_d=17.0 MeV and E_p=17.8 MeV beams were produced from two-stage tandem facility at the University of Pittsburgh. A target of about 100 μg/cm^2 95% ^{210}Po metal on a 50 μg/cm^2 carbon foil. Reaction products were momentum analyzed with a split-pole magnetic spectrograph (FWHM≈15, estimated by evaluator) and detected in emulsions. Measured $\sigma(E_d,E_p,\theta)$. Deduced levels, J^{π}, L, spectroscopic factors from a DWBA analysis.

^{209}Po Levels

N×g×C^{2}S=$\sigma(\theta)_{exp}/\sigma(\theta)_{DWBA}$, where N is the normalization factor and g=1/(2j+1) for (d,t) and (p,d) reactions with j the angular momentum of the transferred nucleon. N=1.53 (1979Bh01).

E(level)	L[†]	C^{2}S/(2j+1)[†]	E(level)	L[†]	C^{2}S/(2j+1)[†]	E(level)	L[†]	C^{2}S/(2j+1)[†]
0	1	1.05	1765 *10*	6	0.69	2206 *10*	(3)	
547 *10*	3	1.05	1996 *10*	3	0.07	2239 *10*	3	0.22
857 *10*	1	0.81	2061 *10*	(3)		2339 *10*	3	0.09
1174 *10*	3	0.07	2082 *10*	(3)		2363 *10*	3	0.11
1214 *10*	1	0.14	2186 *10*	(3)		2664 *10*	3	0.19

[†] From the comparisons of the measured angular distributions from (d,t) with the DWBA predictions. Some S values are also given by the authors for (p,d). In order to extract C^{2}S, the authors assume the correspondence $p_{3/2}$ for L=1, except $p_{1/2}$ for the gs, $f_{7/2}$ for L=3, except $f_{5/2}$ for the 547 and 1174 levels, and $i_{13/2}$ for L=6. Relative spectroscopic factors are also available from (p,d).