^{76}Se(p,p′) IAR 1974Gr35,1968Ba23

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	ENSDF	30-Sep-2020

1974Gr35: E=3.1-4.5 MeV. $\sigma(\theta)$ at 90°, 120°, 160°. See also 1973GrYX from the same group.
1968Ba23: E=3.0-4.8 MeV. FWHM=35 keV. $\sigma(\theta)$ data at 90°, 125°, 150°.
Deduced Coulomb displacement energy=10536 *15* (1974Gr35), 10480 *20* (1968Ba23). Theoretical value is 10540.

^{77}Br Levels

Γ from 1974Gr35.

E(level)[†]	J^π	L[‡]	S[#]	Comments
8401 *11*	$1/2^-$			E(p)(c.m.)=3129 keV *10*; identified as analog of g.s., $1/2^-$ in ^{77}Se.
8608 *11*				E(p)(c.m.)=3336 keV *10*. Level-energy difference=207 keV *11*, relative to the 8401 energy normalized to g.s. in ^{77}Se; identified as analog of 239 and/or 250 levels in ^{77}Se.
8922 *11*	$3/2^-$	1	0.16 *3*	E(p)(c.m.)=3650 keV *10*, Γ=10 keV *2*. Level-energy difference=521 keV *11*, relative to the 8401 energy normalized to g.s. in ^{77}Se; identified as analog of 521, $3/2^-$ level in ^{77}Se. S: 0.34 in (d,p).
9092 *11*	$5/2^+$	2	0.75 *20*	E(p)(c.m.)=3820 keV *10*, Γ=15 keV *2*. Level-energy difference=691 keV *11*, relative to the 8401 energy normalized to g.s. in ^{77}Se; identified as analog of 680, $5/2^+$ level in ^{77}Se. S: 1.23 in (d,p).
9364 *11*	$1/2^+$	0	0.35 *2*	E(p)(c.m.)=4092 keV *10*, Γ=23 keV *2*. Level-energy difference=963 keV *11*, relative to the 8401 energy normalized to g.s. in ^{77}Se; identified as analog of 956, $1/2^+$ level in ^{77}Se. S: 0.25 in (d,p).
9430 *11*	$3/2^-$	1	0.08 *1*	E(p)(c.m.)=4158 keV *10*, Γ=18 keV *2*. Level-energy difference=1029 keV *11*, relative to the 8401 energy normalized to g.s. in ^{77}Se; identified as analog of 1005, $3/2^-$ level in ^{77}Se. S: 0.17 in (d,p).
9488 *11*	$1/2^+$	0	0.63 *2*	E(p)(c.m.)=4216 keV *10*, Γ=31 keV *2*. Level-energy difference=1087 keV *11*, relative to the 8401 energy normalized to g.s. in ^{77}Se; identified as analog of 1126, $1/2^+$ level in ^{77}Se. S: 0.76 in (d,p).
9632 *11*	$5/2^+$	2	0.92 *15*	E(p)(c.m.)=4360 keV *10*, Γ=24 keV *2*. Level-energy difference=1231 keV *12*, relative to the 8401 energy normalized to g.s. in ^{77}Se; identified as analog of 1252, $5/2^+$ level in ^{77}Se. S: 1.11 in (d,p).

[†] From E(p) in c.m. system (1974Gr35) and S(p)(^{77}Br)=5271.8 *28* (2017Wa10). Uncertainty of 10 keV given by 1968Ba23 for two L=0 resonances, the same uncertainty assumed by the evaluator for other resonances.
[‡] From $\sigma(\theta)$ (1974Gr35).
[#] (2J+1)S values. For comparison values from ^{76}Se(d,p) reaction (1965Li08) are given under comments.