$^{2}H(^{84}Se,P)$ 2007Th15

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh and Jun Chen	NDS 116, 1 (2014)	31-Dec-2013

2007Th15 (also related reports 2007Jo09,2005Ci07,2005Th09,2005Th12): E(^{84}Se)=380 MeV, radioactive ion-beam. Target=200 μg/cm^2 (CD_2). Radioactive ^{84}Se beam extracted as fission fragment from proton bombardment of a UC_x target, followed by injection of ^{84}Se negative ions into a tandem accelerator. The protons from the transfer reaction were detected in a large area silicon detector array SIDAR, in coincidence with (beam or beam-like) recoils in the ionization chamber with a time window of 80 ns wide. Measured excitation energies and angular distributions, (proton)(recoil) coin. FWHM ≈ 300 keV. Deduced spectroscopic factors, DWBA analysis. Experiments performed at HRIBF facility at ORNL. Comparisons with shell-model calculations.
Additional information 1.

^{85}Se Levels

C^2_{lj} are the square of the Asymptotic Normalization Coefficients (ANCs).

E(level)[#]	J^{π}[†]	L[‡]	S_{lj}	Comments
0	$(5/2)^+$	2	0.33 *10*	C^2_{lj}=6.1 fm^{-1} *14*.
462	$1/2^+$	0	0.30 *9*	L: L=2 in table II of 2007Th15 is a misprint. C^2_{lj}=25 fm^{-1} *6*.
1115				L: following tentative spin assignment of $(3/2^+,7/2^+)$ by 1991Om02, angular distribution data were fitted by 2007Th15 with L=2 and L=4. There is slight preference for L=4, but no certain assignment can be made. S_{lj}: for 0.06 *2* for L=2; S_{lj}=0.77 *27* for L=4. C^2_{lj}=0.42 fm^{-1} *11* for L=2, 0.049 fm^{-1} *12* for L=4.
1441				E(level): 1438+1444 doublet. L: angular distribution data were compared with representative distributions for L=2, $d_{3/2}$ and L=2, $d_{5/2}$. No assignment could be made from these data.

† From Adopted Levels.
‡ From comparison of $\sigma(\theta)$ distributions with DWBA calculations.
# 2007Th15 adopt level energies from 1991Om02.