^{208}Pb(d,nγ) 1978El07

History

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

1978El07: E=6,8,10 MeV deuteron beams were produced from the University of Jyvaskyla 90-cm cyclotron. Targets were 99% enriched self-supporting metallic ^{208}Pb foils with thickness of 500 μg/cm^2. Conversion electrons were detected with a magnetic lens plus Si(Li) spectrometer and γ-rays were detected with standard 40 cm^3 Ge(Li) detectors. Measured Eγ, ce(t). Deduced levels, J^π, $T_{1/2}$.

No delayed conversion electrons with energies in the range 50 to 300 keV were observed, and a γ spectrum, delayed by 10 to 25 ns with respect to the pulsed beam and in coincidence with γ-rays in the energy range 600 to 1700 keV, showed only the 894 and 1546γ. The authors of 1978El07 therefore conclude that the observed 10 ns half-life is associated with the 2442 level. Assignment of the 1546γ to Bi is based on a comparison of E(γ) and E(ce(K)) of the 1546γ with that of the 1566γ in ^{209}Pb (from (d,pγ)).

^{209}Bi Levels

E(level)	J$^\pi$ †	$T_{1/2}$	Comments
0	$9/2^-$		
896.3	$7/2^-$		
2442.5 *5*	$1/2^+$	10 ns *2*	$T_{1/2}$: from 896γ ce(K)(t) (1978El07).

† From Adopted Levels.

γ(^{209}Bi)

Eγ	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Mult.	Comments
896.3	896.3	$7/2^-$	0	$9/2^-$		Eγ: rounded-off value from Adopted Gammas.
1546.2 *5*	2442.5	$1/2^+$	896.3	$7/2^-$	E3	Mult.: M1 or E3 from α(K)(exp)=0.0054 *14*, deduced from I(ce(K))/I(γ) relative to the 1566γ (in ^{209}Pb from (d,pγ)) and the 1608γ, both known to be M2. M1 is ruled out by the long half-life.

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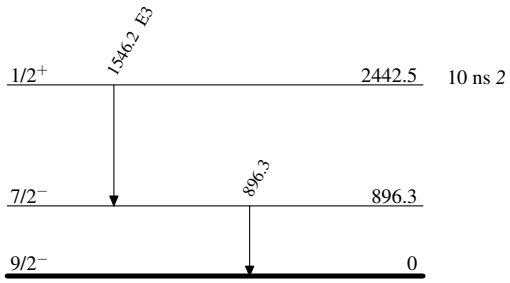
Level Scheme



$^{209}_{83}Bi_{126}$