Inelastic scattering 1967Cr06,1966Al07

History

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

See also ^{209}Bi(e,e′) giant resonance, ^{209}Bi(e,e′) charge density, ^{209}Bi(p,p′) giant resonance, ^{209}Bi(p,p)(p,p′)(p,pol p), ^{209}Bi(α,α′) giant resonance, as well as low-bombarding energy, high-resolution datasets ^{209}Bi(d,d′), ^{209}Bi(p,p′), and ^{209}Bi(n,n′γ).

1967Cr06: (n,n′) E=4.1 MeV neutron beam was produced from the Los Alamos Scientific Laboratory. Scattered neutrons were detected with the time-of-flight neutron spectrometer, FWHM=30 keV. Measured σ(E). Deduced levels.

1966Al07, 1967Al14: (α,α′) E=42 MeV α beam was produced from the University of Washington Cyclotron. Scattered α′s were detected by Li-drifted silicon counters, FWHM=90-110 keV. Measured σ(E$_\alpha$,θ). Deduced levels, L, β_L from DWBA analysis.

Others:

1961Cr01: (e,e′) E=183 MeV.
1962Re07: (n,n′) E=14.8 MeV.
1964Ro05: (n,n′) E=14 MeV.
1966Cr03: (n,n′) E=6, 8 MeV.
1968De23: (n,n′) E=1-4 MeV.
1968Zi02: (e,e′) E=70 MeV.
1972Ta03: (n,n′) E=1.45-3.58 MeV.
1973Ma13: (n,n′) E=14.1 MeV.
1980Pr10: (n,n′) E=20.6 MeV.
1983Av08: (n,n′) E=fast.
1985Fi02,1985An15: (n,n′) E=4-7 MeV.
1985Er07: (n,n′) E=2.5 MeV.
1985Ze05: (α,α′γ) E=20 MeV.
1988Ch10: (α,α′) E=50.5 MeV.
1991Si04: (α,α′) E=69.5 MeV.
1998Sh15: (^{11}B,^{11}B′) E=49.8-84.1 MeV.
2002De67: (n,n′) E=1.37-3.76 MeV.
2002Si16: (^{9}Be,^{9}Be′) E=40, 42, 44, 46, 48 MeV. Also 2000Si19.
2010Zh34: (n,n′) E=37 MeV.
2011Po14: (n,n′) E=2-4 MeV.

^{209}Bi Levels

Additional information 1.

E(level)†	L#	Comments
0		
896.4‡		
1609.2‡		
2480		
2580	3	β_3=0.122 *6* (1967Al14) B(E3)↑=0.067 *5* (1968Zi02), β_3=0.14 *2* (1964Ro05), β_3=0.12 *2* (1966Cr03), β_3=0.16 *5* (1961Cr01), β_3R=0.76 *8* (1966Al07), 0.71 *5* (1988Ch10), 0.70 *3* (1991Si04). Additional information 2.
2735		
2820		
2940		
2980		
3040		
3130	5	β_5=0.067 *4* (1967Al14) β_5R=0.32 *3* (1966Al07).
3170		

Continued on next page (footnotes at end of table)

Inelastic scattering 1967Cr06,1966Al07 (continued)

^{209}Bi Levels (continued)

E(level)†	L#	Comments
3380		
3450		
4220	4	E(level): From 1988Ch10 and 1991Si04. L: from 1991Si04 and 1961Cr01. β_4R=0.20 *7*, β_2R=0.31 *3* (1988Ch10); β_4R=0.46 *3*, β_2R=0.37 3 (1991Si04), β_4=0.17 6 (1961Cr01).

† From 1967Cr06. Excited states are incompletely resolved, except for 894 and 1605 states, unless otherwise noted.
‡ From 1985Ze05.
# From 1966Al07, unless otherwise noted.

$\gamma(^{209}Bi)$

E_γ†	E_i(level)	E_f
896.4	896.4	0
1609.2	1609.2	0

† From 1985Ze05.

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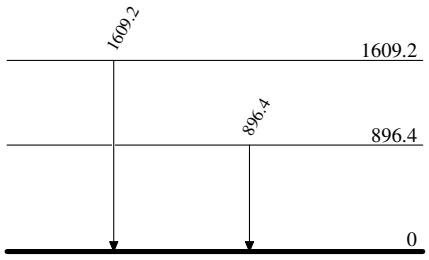
Level Scheme



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