^{68}Zn(p,p′), (p,p), (p,n), IAR 1971St27

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	C. D. Nesaraja	NDS 115, 1 (2014)	31-Jul-2013

^{68}Zn(p,p′γ): 1971St27: E=3.9-6.1 MeV; measured σ(E), pγγ (θ).
1968Go21: E=2.8-4.2 MeV; measured σ(E).
^{68}Zn(p,p): 1981Ab01: E=4.0-4.2 MeV, resolution (FWHM)≈1.5 keV; measured σ(E), Breit-Wigner analysis.
^{68}Zn(p,n): 1970Eg02: E=4.1, 4.9 MeV; measured σ(E), neutron time-of-flight, Hauser-Feshbach analysis. Other: 1995Zh22.
Except where otherwise noted, the data are from 1971St27. For IAR excitation in p capture see ^{68}Zn(p,γ) (1978Ra06). Other measurements: 1966Ga14, 1966Vo02.
For (p,n) resonance measurements near threshold see 1975Le03.

^{69}Ga Levels

E(level)[†]	Jπ[@]	$T_{1/2}$	L[&]	(2J+1)S[a]	Comments
(0)					
9803[#] *10*		31 keV *10*			E(p)(lab)=3240 *10*, IAS(g.s. ^{69}Zn).
10586[‡]	(3/2$^-$)	0.5 keV			E(p)(lab)=4035, Γ(p)=0.03 keV, component of 10615.
10597[‡]		2.5 keV			E(p)(lab)=4046, Γ(p)=0.10 keV, component of 10615.
10621	3/2$^-$	30 keV	1	0.28	E(p)(lab)=4070, Γ(p)=2.0 keV, IAS(834 ^{69}Zn).
10655	5/2$^+$	30 keV	(2)	0.73	E(p)(lab)=4105, Γ(p)=1.1 keV, IAS(872 ^{69}Zn).
10686[‡]	(5/2$^+$)	2.5 keV			E(p)(lab)=4136, Γ(p)=0.07 keV, component of 10650.
10698[‡]	(5/2$^+$)	2.5 keV			E(p)(lab)=4148, Γ(p)=0.07 keV, component of 10650.
10717[‡]	(5/2$^+$)	2.5 keV			E(p)(lab)=4167, Γ(p)=0.07 keV, component of 10650.
11404	5/2$^+$	30 keV	2	0.55	E(p)(lab)=4865, Γ(p)=2.2 keV, IAS(1633 ^{69}Zn).
11483	1/2$^+$	60 keV	0	0.47	E(p)(lab)=4945, Γ(p)=20.0 keV, IAS(1696 ^{69}Zn).
11601	(1/2$^-$)	30 keV	(1)	0.05	E(p)(lab)=5065, Γ(p)=2.0 keV, IAS(1828 ^{69}Zn).
12028	1/2$^+$	40 keV	0	0.08	E(p)(lab)=5498, Γ(p)=4.0 keV, IAS(2262 ^{69}Zn).
12178	5/2$^+$	30 keV	2	0.52	E(p)(lab)=5650, Γ(p)=4.0 keV, IAS(2410 ^{69}Zn).
12331	5/2$^+$	30 keV	2	0.27	E(p)(lab)=5805, Γ(p)=2.3 keV, IAS(2562 ^{69}Zn).
12434	1/2$^+$	50 keV	0	0.43	E(p)(lab)=5910, Γ(p)=24.0 keV, IAS(2663 ^{69}Zn).

† From E(level)=E(C.M.)+S(p). Uncertainties on E not given by 1971St27 but consistency of Coulomb displacement energy implies ΔE≈15. Data are from 1971St27, unless indicated otherwise. S(p)=6609.9 *15* from 2012Wa38.
‡ Level parameters and Jπ based on Breit-Wigner analysis of data by 1981Ab01.
# Level parameters from 1968Go21.
@ From σ(E) and P′γγ(θ) (1971St27), unless indicated otherwise.
& From σ(E) (1971St27).
a S=(N+1−Z)Γ(p)P(n), where P(n) is the penetration factor (1971St27).