^{78}Kr(p,p′),(p,p′γ)   1979Sa14,1978Ma11,1995Gi13

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Ameenah R. Farhan, Balraj Singh	NDS 110, 1917 (2009)	30-Jun-2009

Includes (p,p′γ).

1979Sa14, 1978Ma11: (p,p′): protons analyzed by a broad-range magnetic spectrograph, FWHM=100 keV. Angular distributions studied from 10° to 80° in steps of 2.5°. Cross-section uncertainty=10%. 1979Sa14 report positive-parity states while 1978Ma11 give results on negative-parity states. Authors deduced deformation parameters β_2 and reduced transition probabilities from DWBA and coupled-channel calculations.

1995Gi13: (p,p′γ) E=6.5 MeV, DSAM measurement in gas medium.

^{78}Kr Levels

E(level)[†]	J$^{\pi}$[†‡]	T$_{1/2}$	L[†]	Comments
0	0$^+$			
454 *15*	2$^+$		2	β_2(DWBA)=0.351, β_2(coupled-channel)=0.317, B(E2)(W.u.)=52 *8*.
1017	0$^+$	7.6 ps *21*		T$_{1/2}$: from DSAM measurement of 562γ in (p,p′γ) reaction (1995Gi13).
1118 *15*	4$^+$		4	β_2(DWBA)=0.101, β_2(coupled-channel)=0.099, B(E4)(W.u.)=5.5 *11*.
1148 *15*	2$^+$		2	β_2(DWBA)=0.065, β_2(coupled-channel)=0.059, B(E2)(W.u.)=1.8 *4*.
2384 *15*	3$^-$		3	B(E3)(W.u.)=16.7 *25*.
2871 *15*	3$^-$		3	B(E3)(W.u.)=6.2 *9*.

[†] Data for positive-parity states are from 1979Sa14 and for negative-parity states from 1978Ma11, both studies by the same group.
[‡] From L(p,p′) and 'Adopted Levels'.

γ(^{78}Kr)

E$_{\gamma}$	E$_i$(level)	J$^{\pi}_i$	E$_f$	J$^{\pi}_f$
562	1017	0$^+$	454	2$^+$

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Level Scheme

$^{78}_{36}$Kr$_{42}$