^{208}Pb(^{40}Ar,Xγ) 2011Sz02

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	C. D. Nesaraja, E. A. Mccutchan	NDS 133, 1 (2016)	30-Sep-2015

2013Sz01: Description of the interplay between single particle and collective excitations with reference to results in 2011Sz02.

2011Sz02: ^{40}Ar beam, E=255 MeV produced from an ECR ion source and accelerated by the superconducting ALPI accelerator of the Laboratory Nazionali di Legnaro bombarded a 300 μg/cm^2 ^{208}Pb. Projectile-like fragments from the multiple transfer reaction were identified by spectrometer Prisma with ΔE, E and time of flight measurements. Gamma rays detected by the Clara array, consisting of twenty-four HPGe clover-type detectors. Measured Eγ, Iγ, fragment-γ coincidence. Deduced levels, J, π. Comparison with *sd-pf* shell model calculations.

^{41}Ar Levels

E(level)[†]	J$^\pi$
0.0	7/2$^-$
167.11 *9*	5/2$^-$
515.75 *15*	3/2$^-$
1033.93 *16*	3/2$^+$
1353.71 *11*	3/2$^-$
1504.8 *6*	(9/2$^-$)
1629.7 *3*	(11/2$^-$)
1867.98 *14*	1/2$^+$
2398.0 *5*	1/2$^-$

[†] From least-square fits to Eγ's.

γ(^{41}Ar)

Eγ[†]	Iγ[#]	E_i(level)	J^π_i	E_f	J^π_f	Eγ[†]	Iγ[#]	E_i(level)	J^π_i	E_f	J^π_f
167.1 *1*	36.8 *18*	167.11	5/2$^-$	0.0	7/2$^-$	866.7 *2*	5.8 *5*	1033.93	3/2$^+$	167.11	5/2$^-$
348.7 *2*	5.4 *5*	515.75	3/2$^-$	167.11	5/2$^-$	1044.3 *4*	3.1 *4*	2398.0	1/2$^-$	1353.71	3/2$^-$
514.2 *1*	1.2 *5*	1867.98	1/2$^+$	1353.71	3/2$^-$	1186.6 *1*	36.3 *14*	1353.71	3/2$^-$	167.11	5/2$^-$
516.0 *3*	15.5 *17*	515.75	3/2$^-$	0.0	7/2$^-$	1353.3 *3*	1.0 *10*	1867.98	1/2$^+$	515.75	3/2$^-$
517.9 *3*	3.7 *5*	1033.93	3/2$^+$	515.75	3/2$^-$	1353.6 *2*	4.1 *11*	1353.71	3/2$^-$	0.0	7/2$^-$
833.8 *2*	1.0 *5*	1867.98	1/2$^+$	1033.93	3/2$^+$	1504.8[‡] *6*	3.2 *4*	1504.8	(9/2$^-$)	0.0	7/2$^-$
837.5 *3*	7.2 *5*	1353.71	3/2$^-$	515.75	3/2$^-$	1629.7[‡] *3*	11.6 *67*	1629.7	(11/2$^-$)	0.0	7/2$^-$

[†] All gamma energies are from adopted gammas except as noted.
[‡] From 2011Sz02.
[#] Gamma ray intensities reported are from private communication in 2015SzZZ.

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Level Scheme

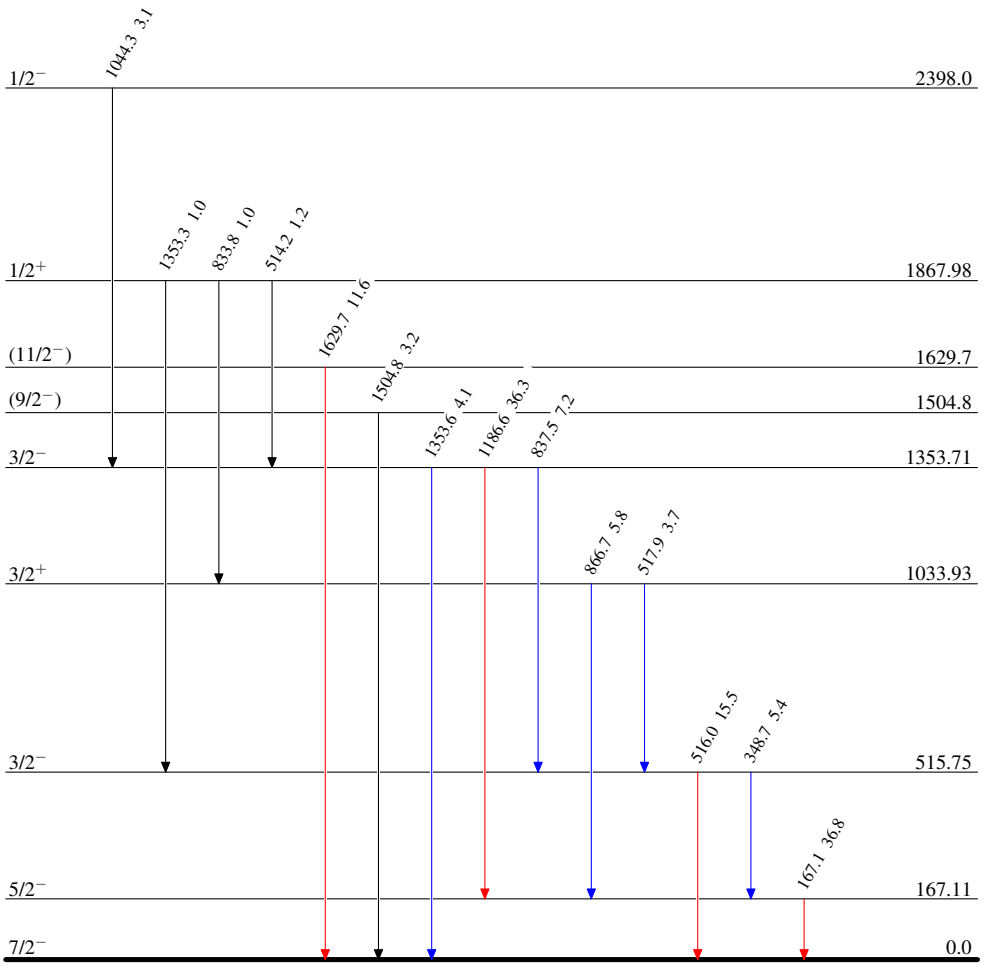
Intensities: Relative I_γ

Legend

$I_\gamma < 2\% \times I_\gamma^{max}$

$I_\gamma < 10\% \times I_\gamma^{max}$

$I_\gamma > 10\% \times I_\gamma^{max}$



$^{41}_{18}Ar_{23}$