^{208}Pb(^{40}Ar,Xγ) 2011Sz02

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Jun Chen[#] and Balraj Singh	NDS 135, 1 (2016)	31-May-2016

2011Sz02 (also 2013Sz01): E=255 MeV ^{40}Ar beam from the superconducting ALPI accelerator of the Laboratory Nazionali di Legnaro. Target=300 μg/cm^2 ^{208}Pb. Projectile-like fragments were identified by spectrometer Prisma by ΔE-E and time-of-flight (TOF) measurements and γ rays were detected by the Clara array, consisting of 24 HPGe clover-type detectors (photo-peak efficiency 3% at 1.33 MeV, FWHM=0.6%−0.9%). Measured Eγ, Iγ, (fragment)γ coincidence. Deduced levels, J^π. Comparison with shell model calculations.

^{42}Ar Levels

E(level)[†]	J$^\pi$[‡]
0.0[@]	0^+
1208.0[@] *10*	2^+
2413.0[@] *15*	(4^+)[#]
2485.5 *11*	2^+
3095.6 *12*	4^+
3563.5[@] *15*	(6^+)[#]

[†] From least-squares fit to Eγ data.
[‡] From Adopted Level, unless otherwise noted.
[#] Proposed by 2011Sz02 as the members of the 2^+, 4^+ and 6^+ yrast sequence and from comparison with shell model calculations as well.
[@] Band(A): yrast sequence (2011Sz02).

γ(^{42}Ar)

E$_\gamma$	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$
1150.4 *3*	3563.5	(6^+)	2413.0	(4^+)
1205 *1*	2413.0	(4^+)	1208.0	2^+
1208 *1*	1208.0	2^+	0.0	0^+
1277.5 *3*	2485.5	2^+	1208.0	2^+
1887.5 *6*	3095.6	4^+	1208.0	2^+

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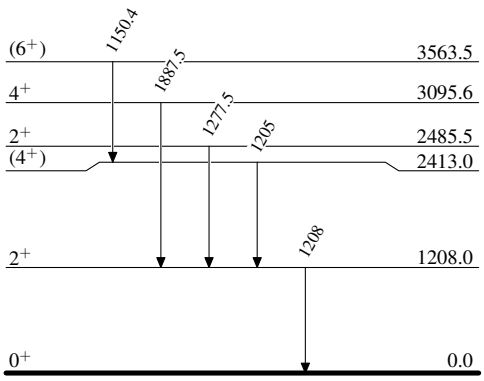
Level Scheme



$^{42}_{18}Ar_{24}$

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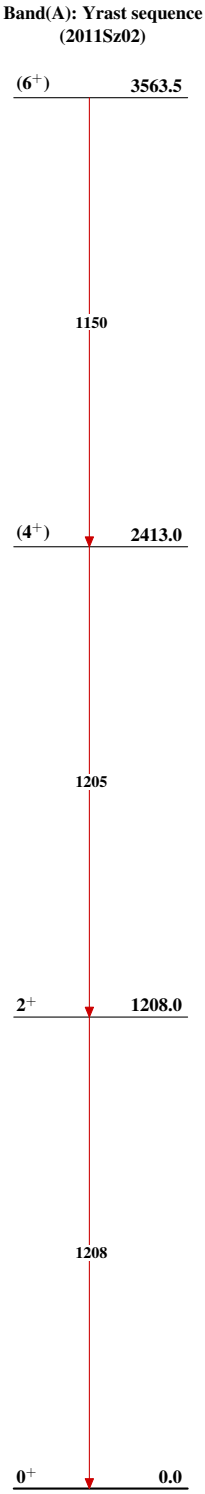

$^{42}_{18}Ar_{24}$