^{92}Mo(^{78}Kr,2$\alpha\gamma$) 2015Li24

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	N. Nica	NDS 195,1 (2024)	19-Sep-2023

Includes (^{78}Kr,α2p2nγ) channel. Recoil-decay tagging technique.

2015Li24 and 2017Do06 compiled for XUNDL batabase by B. Singh (McMaster).

2015Li24: E(^{78}Kr)=380 MeV. Measured Eγ, Iγ, $\gamma\gamma$-coin, Eα, recoil-α-α-α, recoil-α-γ correlations, half-lives of ground states of ^{162}W and parent nucleus ^{166}Os. Target=0.6 mg/cm^2 thick ^{92}Mo. Gamma rays were detected using JUROGAM-II array of 15 EUROGAM phase I and GASP-type Ge detectors. Recoiling nuclei were separated using gas-filled RITU separator and implanted in GREAT spectrometer at K-130 cyclotron facility of the University of Jyvaskyla. Deduced high-spin levels, J^π, yrast band. Total Routhian surface and cranked-shell model calculations.

2017Do06: E(^{78}Kr)=380 MeV. Measured Eγ, lifetime of the first 2$^+$ state by recoil-distance Doppler-shift (RDDS) method using DPUNS differential plunger device and RITU separator for reaction products at Jyvaskyla K-130 cyclotron facility. Deduced B(E2) for the first 2$^+$ state. Comparison with systematics of B(E2) values for neighboring nuclei, and with theoretical calculations.

^{162}W Levels

E(level)[†]	J$^\pi$	T$_{1/2}$	Comments
0.0[‡]	0$^+$	990 ms *30*	T$_{1/2}$: measured by 2015Li24 from recoil-α-α-α correlations. Authors note that this half-life disagrees with previous value of 1360 ms *70*. Measured Eα by 2015Li24 is in agreement with literature value of 5541 *5*; value not listed by 2015Li24, only labeled as 5541 keV in their figure 1a.
449.4[‡] *3*	(2$^+$)	19 ps *8*	T$_{1/2}$: mean lifetime τ=27 ps *11* from RDDS method (2017Do06).
1012.5[‡] *5*	(4$^+$)		
1638.2[‡] *6*	(6$^+$)		
2266.8[‡] *6*	(8$^+$)		
2823.0[‡] *9*	(10$^+$)		
3442.0[‡] *14*	(12$^+$)		

[†] From Eγ data.

[‡] Band(A): Yrast band. Based on cranked shell-model calculations, the observed band crossing is suggested to be associated with the alignment of a pair of $\nu f_{7/2}/h_{9/2}$ quasiparticles.

γ(^{162}W)

Tentative multipolarity of E2 assigned for all the γ rays based on $\gamma\gamma$-coin relationships and relative intensities (assumed by the evaluator).

E$_\gamma$	I$_\gamma$	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Mult.
449.4 *3*	100	449.4	(2$^+$)	0.0	0$^+$	[E2]
556.2 *6*	9 *4*	2823.0	(10$^+$)	2266.8	(8$^+$)	[E2]
563.1 *3*	80 *14*	1012.5	(4$^+$)	449.4	(2$^+$)	[E2]
619[†] *1*	<1	3442.0	(12$^+$)	2823.0	(10$^+$)	[E2]
625.7 *3*	54 *9*	1638.2	(6$^+$)	1012.5	(4$^+$)	[E2]
628.6 *3*	42 *7*	2266.8	(8$^+$)	1638.2	(6$^+$)	[E2]

[†] Placement of transition in the level scheme is uncertain.

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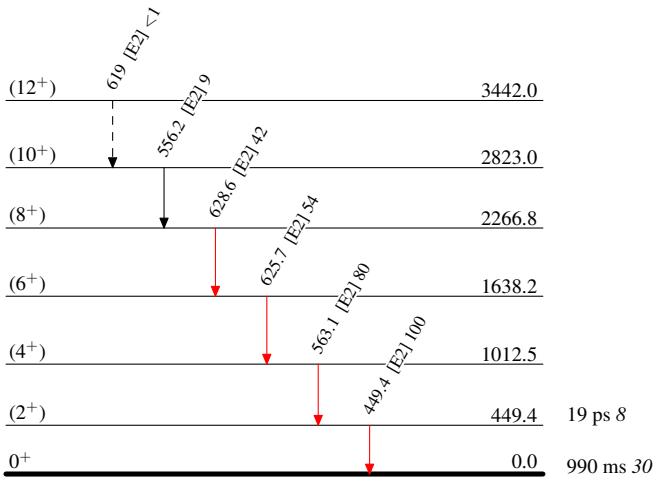
Level Scheme

Intensities: Relative I_γ

Legend

$I_\gamma < 2\% \times I_\gamma^{max}$
$I_\gamma < 10\% \times I_\gamma^{max}$
$I_\gamma > 10\% \times I_\gamma^{max}$
γ Decay (Uncertain)



$^{162}_{74}W_{88}$

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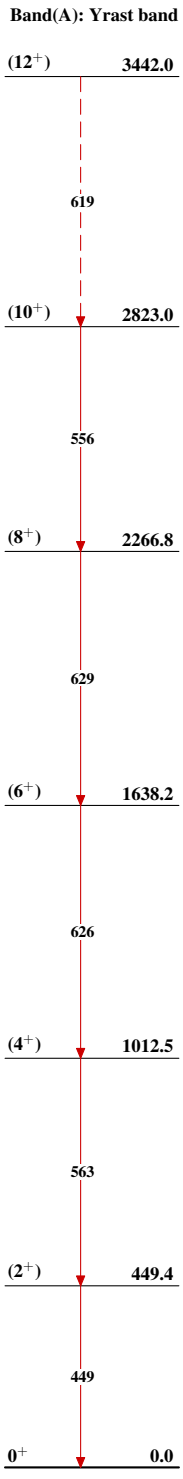

$^{162}_{74}W_{88}$