

$^{70}\text{Ge}(^{32}\text{S},2\text{p}2\text{n}\gamma)$ 1984Pi11

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Jun Chen, Balraj Singh		NDS 164, 1 (2020)	15-Feb-2020

1984Pi11: E=120 MeV ^{32}S beam was produced from the Brookhaven Tandem Van de Graaff. Targets were 500-800 $\mu\text{g}/\text{cm}^2$ 85% enriched ^{70}Ge on tantalum backings. γ rays were detected with Ge(Li) detectors. Measured E_γ , I_γ , $\gamma\gamma$ -coin, $\gamma(\theta)$. Deduced levels, J, π , γ -ray multiplicities. Comparisons with theoretical calculations. Systematics of even-A Pd isotopes. All data are from **1984Pi11**, unless otherwise noted.

 ^{98}Pd Levels

E(level) [†]	J π [‡]	E(level) [†]	J π [‡]	E(level) [†]	J π [‡]	E(level) [†]	J π [‡]
0.0 [#]	0 ⁺	2111.7 [#] 7	6 ⁺	2619.4 7	(5 ⁻)	4445.6 [#] 11	12 ⁺
862.48 [#] 14	2 ⁺	2146?		2772.1 [#] 7	8 ⁺	5698.3 [#] 11	14 ⁺
1540.8 [#] 7	4 ⁺	2567.1?		3643.5 [#] 7	10 ⁺	6418.3? [#]	(16 ⁺)

[†] From a least-squares fit to γ ray energies.

[‡] From **1984Pi11**, based on $\gamma(\theta)$ data and systematics (^{96}Ru).

[#] Band(A): Yrast band.

 $\gamma(^{98}\text{Pd})$

E_γ	I_γ	$E_i(\text{level})$	J π_i	E_f	J π_f	Mult. [†]	Comments
455.4 [‡] 3	9.7 5	2567.1?		2111.7	6 ⁺		$A_2=+0.11$ 11; $A_4=-0.41$ 17
570.91 10	61.9 7	2111.7	6 ⁺	1540.8	4 ⁺	Q	$A_2=+0.326$ 20; $A_4=-0.096$ 29
605.65 [‡] 14		2146?		1540.8	4 ⁺		E_γ : unresolved from another transition.
660.41 24	51.0 21	2772.1	8 ⁺	2111.7	6 ⁺	Q	$A_2=+0.33$ 3; $A_4=-0.12$ 4 E_γ, I_γ : unresolved from 663.0 γ in ^{98}Rh , 659.6 γ in ^{96}Ru , and 661.0 γ in ^{95}Ru .
678.3 6	74 4	1540.8	4 ⁺	862.48	2 ⁺		E_γ, I_γ : unresolved from 677.6 γ in ^{95}Ru .
720.0 [‡] 5	7.3 17	6418.3?	(16 ⁺)	5698.3	14 ⁺		E_γ, I_γ : unresolved from 719.4 γ in ^{102}Pd .
802.1 8	19.4 25	4445.6	12 ⁺	3643.5	10 ⁺	Q	$A_2=+0.32$ 4; $A_4=-0.08$ 6 E_γ, I_γ : unresolved from 800.6 γ in ^{96}Ru .
862.48 14	100.0 10	862.48	2 ⁺	0.0	0 ⁺	Q	$A_2=+0.282$ 15; $A_4=-0.099$ 22
871.36 14	34.7 17	3643.5	10 ⁺	2772.1	8 ⁺		E_γ, I_γ : unresolved from 871.1 γ in ^{94}Mo .
1078.59 19	8.0 8	2619.4	(5 ⁻)	1540.8	4 ⁺		$A_2=-0.11$ 20; $A_4=-0.03$ 30
1252.69 14	20.3 4	5698.3	14 ⁺	4445.6	12 ⁺	Q	$A_2=+0.24$ 4; $A_4=-0.17$ 6

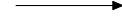



[†] Stretched quadrupole ($\Delta J=2$, most likely E2) from $\gamma(\theta)$ (**1984Pi11**).

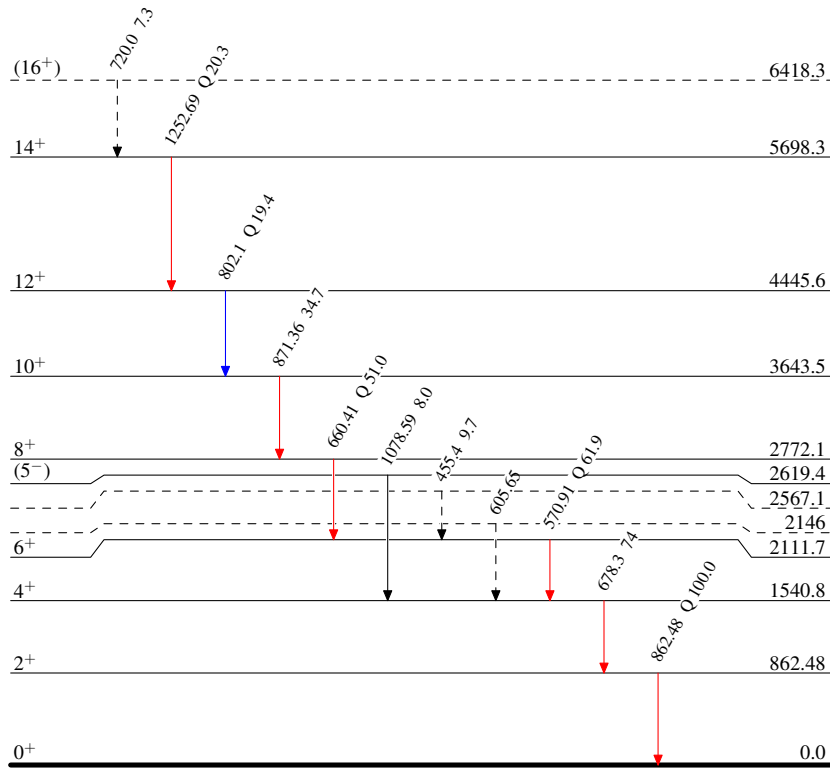
[‡] Placement of transition in the level scheme is uncertain.

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Legend

Level Scheme
Intensities: Relative I_γ

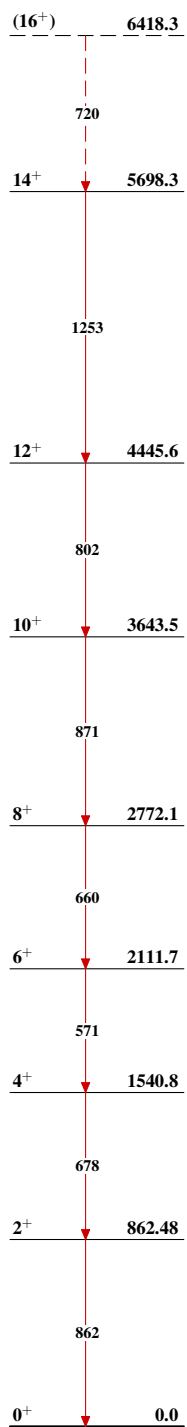
-  $I_\gamma < 2\% \times I_\gamma^{max}$
-  $I_\gamma < 10\% \times I_\gamma^{max}$
-  $I_\gamma > 10\% \times I_\gamma^{max}$
-  γ Decay (Uncertain)



$^{98}_{46}\text{Pd}_{52}$

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Band(A): Yrast band

 $^{98}_{46}\text{Pd}_{52}$