$$^{96}\text{Mo}(^{78}\text{Kr},3n\gamma) \qquad \textbf{1998Se20}$$

### History

| Type | Author | Citation | Literature Cutoff Date |
|---|---|---|---|
| Full Evaluation | Coral M. Baglin, E. A. Mccutchan | NDS 151, 334 (2018) | 30-Jun-2018 |

1998Se20: E($^{78}$Kr)=345 MeV, enriched $^{96}$Mo target, recoil $\alpha$-decay tagging; 10 Compton-suppressed HPGe detector array, recoil fragment mass analyzer with double-sided Si strip detector behind focal plane; measured E$\gamma$, I$\gamma$, E$\alpha$.

### $^{171}$Pt Levels

| E(level)[†] | J$^{\pi}$[‡] |
|---|---|
| 0.0+x[#] | (13/2$^+$) |
| 446+x[#] | (17/2$^+$) |
| 1052+x[#] | (21/2$^+$) |
| 1723+x[#] | (25/2$^+$) |
| 2410+x[#] | (29/2$^+$) |
| 3110+x?[#] | (33/2$^+$) |

[†] From E$\gamma$ values for $\gamma$ cascade. Energies are given relative to the energy, x, of the postulated 13/2$^+$ state. From Adopted Levels, x=412.6 _10_.

[‡] From 1998Se20; based on the very close similarity between level spacings in $^{171}$Pt and in the g.s. band of $^{172}$Pt, 1998Se20 suggest that the states excited in their fusion-evaporation reaction (which is expected to strongly populate $\nu$ i$_{13/2}$ bands) result from the coupling of a rotationally-aligned i$_{13/2}$ neutron to 0$^+$, 2$^+$, ..., 10$^+$ excitations of the core.

[#] Band(A): probable i$_{13/2}$ band.

### $\gamma(^{171}\text{Pt})$

| E$_\gamma$[†] | I$_\gamma$ | E$_i$(level) | J$_i^\pi$ | E$_f$ | J$_f^\pi$ |
|---|---|---|---|---|---|
| 446 | 100 _15_ | 446+x | (17/2$^+$) | 0.0+x | (13/2$^+$) |
| 606 | 58 _10_ | 1052+x | (21/2$^+$) | 446+x | (17/2$^+$) |
| 671 | 25 _8_ | 1723+x | (25/2$^+$) | 1052+x | (21/2$^+$) |
| 687 | 17 _8_ | 2410+x | (29/2$^+$) | 1723+x | (25/2$^+$) |
| 700[‡] | 8 _4_ | 3110+x? | (33/2$^+$) | 2410+x | (29/2$^+$) |

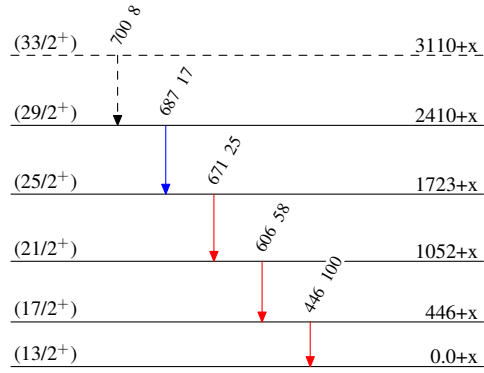[†] From 1998Se20; uncertainty unstated by authors.

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

$^{96}\text{Mo}(^{78}\text{Kr},3n\gamma)$      **1998Se20**

Legend

Level Scheme

Intensities: Relative $I_\gamma$

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



$(33/2^+)$   700 8                    3110+x

$(29/2^+)$   687 17                    2410+x

$(25/2^+)$   671 25                    1723+x

$(21/2^+)$   606 58                    1052+x

$(17/2^+)$   446 100                    446+x

$(13/2^+)$                    0.0+x

$^{171}_{78}\text{Pt}_{93}$

$^{96}$Mo($^{78}$Kr,3n$\gamma$)    1998Se20

**Band(A): Probable i$_{13/2}$ band**

| | | |
|---|---|---|
| (33/2$^+$) | | 3110+x |
| | 700 | |
| (29/2$^+$) | | 2410+x |
| | 687 | |
| (25/2$^+$) | | 1723+x |
| | 671 | |
| (21/2$^+$) | | 1052+x |
| | 606 | |
| (17/2$^+$) | | 446+x |
| | 446 | |
| (13/2$^+$) | | 0.0+x |

$^{171}_{78}$Pt$_{93}$