

$^{192}\text{Os}(^{82}\text{Se},\text{X}\gamma)$  2005Jo11

| Type            | Author                    | History | Citation          | Literature Cutoff Date |
|-----------------|---------------------------|---------|-------------------|------------------------|
| Full Evaluation | Jun Chen and Balraj Singh |         | NDS 177, 1 (2021) | 3-Sep-2021             |

**2005Jo11:** E=460 MeV  $^{82}\text{Se}$  beam was produced from the Laboratori Nazionali di Legnaro. Target was 50 mg/cm<sup>2</sup> isotopically enriched (97.8%)  $^{192}\text{Os}$  on a 0.2 mm  $^{181}\text{Ta}$  backing.  $\gamma$  rays were detected with the GASP array. Measured  $E\gamma$ ,  $I\gamma$ ,  $\gamma\gamma$ -coin. Deduced levels, J,  $\pi$ , band structures. Comparisons with theoretical calculations.

 $^{194}\text{Pt}$  Levels

| E(level) <sup>†</sup>   | J $\pi$ <sup>#</sup>            | Comments                                                                                                                                      |
|-------------------------|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| 0.0@                    | 0 <sup>+</sup>                  |                                                                                                                                               |
| 328.5@ 3                | 2 <sup>+</sup>                  |                                                                                                                                               |
| 811.3@ 5                | 4 <sup>+</sup>                  |                                                                                                                                               |
| 1373.7& 5               | 5 <sup>-</sup>                  |                                                                                                                                               |
| 1411.8@ 5               | 6 <sup>+</sup>                  |                                                                                                                                               |
| 1484.9& 6               | 7 <sup>-</sup>                  |                                                                                                                                               |
| 2047.3& 6               | 9 <sup>-</sup>                  |                                                                                                                                               |
| 2099.6@ 6               | 8 <sup>+</sup>                  |                                                                                                                                               |
| 2438.5 6                | 10 <sup>+</sup>                 | Configuration= $\pi h_{11/2}^{-2}$ (2006Le06).                                                                                                |
| 2663.5 7                |                                 |                                                                                                                                               |
| 2699.3& 12              | (11 <sup>-</sup> )              |                                                                                                                                               |
| 2829.8 <sup>‡</sup> a 7 | (12 <sup>+</sup> ) <sup>‡</sup> | E(level),J $\pi$ : 2842.1, (14 <sup>+</sup> ) in the Adopted Levels.                                                                          |
| 2848.6@ 12              | 10 <sup>+</sup>                 |                                                                                                                                               |
| 2916.6 12               | 10 <sup>+</sup>                 |                                                                                                                                               |
| 2989.3& 16              | (13 <sup>-</sup> )              |                                                                                                                                               |
| 3057.9 7                |                                 |                                                                                                                                               |
| 3487.4 <sup>‡</sup> a 8 | (14 <sup>+</sup> ) <sup>‡</sup> | E(level),J $\pi$ : 3499.7, (16 <sup>+</sup> ) in the Adopted Levels.                                                                          |
| 3670.4 <sup>‡</sup> a 8 | (16 <sup>+</sup> ) <sup>‡</sup> | E(level): 3742 from possible reverse ordering of the 255-183 cascade.<br>E(level),J $\pi$ : 3754.7, (18 <sup>+</sup> ) in the Adopted Levels. |
| 3925.4 <sup>‡</sup> a 9 | (18 <sup>+</sup> ) <sup>‡</sup> | E(level),J $\pi$ : 3937.7, (20 <sup>+</sup> ) in the Adopted Levels.                                                                          |
| 4517.5 <sup>‡</sup> a 9 | (20 <sup>+</sup> ) <sup>‡</sup> | E(level),J $\pi$ : 4529.8, (22 <sup>+</sup> ) in the Adopted Levels.                                                                          |

<sup>†</sup> From a least-squares fit to  $E\gamma$  data, assuming  $\Delta E\gamma=0.3$  keV for  $E\gamma$  values quoted to tenth of a keV, 1 keV for those quoted to nearest keV.

<sup>‡</sup> Energy is expected to be higher by 12.7 keV and spin higher by two units based on proposed (by 2006Le06) structure of the  $i_{13/2}^{-2}$  band. From systematics and g factor measurement, 2006Le06 suggest that the 12<sup>+</sup> level of the structure based on  $\nu i_{13/2}^{-2}$  lies only 12.7 keV above the 2438.5, 10<sup>+</sup> level i.e. at 2451.2 keV.

<sup>#</sup> As given in 2005Jo11 based on band assignments.

@ Band(A): g.s band.

& Band(B): Octupole band.

<sup>a</sup> Band(C): Yrast (oblate)  $\nu i_{13/2}^{-2}$  structure.

$^{192}\text{Os}(^{82}\text{Se}, X\gamma)$  **2005Jo11** (continued) $\gamma(^{194}\text{Pt})$ 

| $E_\gamma$        | $I_\gamma^\dagger$ | $E_i(\text{level})$ | $J_i^\pi$ | $E_f$   | $J_f^\pi$ | Comments                                                        |
|-------------------|--------------------|---------------------|-----------|---------|-----------|-----------------------------------------------------------------|
| 111.4             |                    | 1484.9              | $7^-$     | 1373.7  | $5^-$     | $E_\gamma$ : from the Adopted Gammas.                           |
| 183.0 $^\ddagger$ | 42 5               | 3670.4?             | $(16^+)$  | 3487.4  | $(14^+)$  |                                                                 |
| 225.0             | 41 5               | 2663.5              |           | 2438.5  | $10^+$    |                                                                 |
| 255.0 $^\ddagger$ | 47 5               | 3925.4              | $(18^+)$  | 3670.4? | $(16^+)$  |                                                                 |
| 290 $^\circ$      | 21 4               | 2989.3              | $(13^-)$  | 2699.3  | $(11^-)$  |                                                                 |
| 328.5             |                    | 328.5               | $2^+$     | 0.0     | $0^+$     |                                                                 |
| 338.8             | 100 11             | 2438.5              | $10^+$    | 2099.6  | $8^+$     |                                                                 |
| 391.3 $^\#$       |                    | 2438.5              | $10^+$    | 2047.3  | $9^-$     |                                                                 |
| 391.3 $^\#$       |                    | 2829.8              | $(12^+)$  | 2438.5  | $10^+$    |                                                                 |
| 482.8             |                    | 811.3               | $4^+$     | 328.5   | $2^+$     |                                                                 |
| 562.5 $^\#$       |                    | 1373.7              | $5^-$     | 811.3   | $4^+$     |                                                                 |
| 562.5 $^\#$       |                    | 2047.3              | $9^-$     | 1484.9  | $7^-$     |                                                                 |
| 592.1             | 48 6               | 4517.5              | $(20^+)$  | 3925.4  | $(18^+)$  |                                                                 |
| 600.4             |                    | 1411.8              | $6^+$     | 811.3   | $4^+$     |                                                                 |
| 619.4 $^\circ$    | 92 7               | 3057.9              |           | 2438.5  | $10^+$    | $E_\gamma$ : unresolved from 619 $\gamma$ in $^{78}\text{Ge}$ . |
| 652 $^\circ$      |                    | 2699.3              | $(11^-)$  | 2047.3  | $9^-$     | $E_\gamma$ : unresolved from 655 $\gamma$ in $^{82}\text{Se}$ . |
| 657.6             | 91 7               | 3487.4              | $(14^+)$  | 2829.8  | $(12^+)$  |                                                                 |
| 687.6             |                    | 2099.6              | $8^+$     | 1411.8  | $6^+$     |                                                                 |
| 749               |                    | 2848.6              | $10^+$    | 2099.6  | $8^+$     |                                                                 |
| 817               |                    | 2916.6              | $10^+$    | 2099.6  | $8^+$     |                                                                 |

 $^\dagger$  Relative to 100 for 338.8 $\gamma$  from 2438 level (2005Jo11). $^\ddagger$  Reverse ordering of the 255-183 cascade is also possible. $^\#$  Multiply placed. $^\circ$  Placement of transition in the level scheme is uncertain.

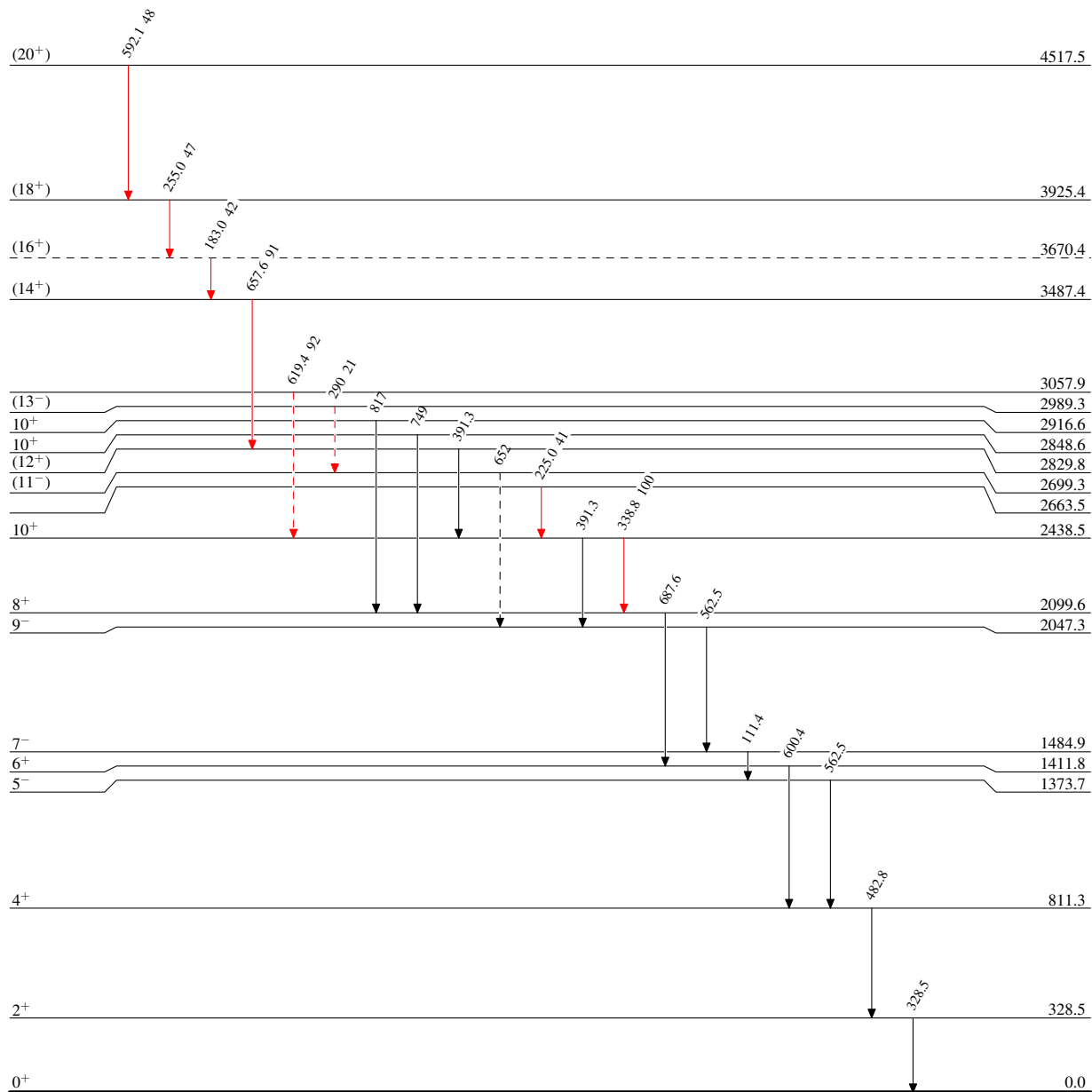
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Legend

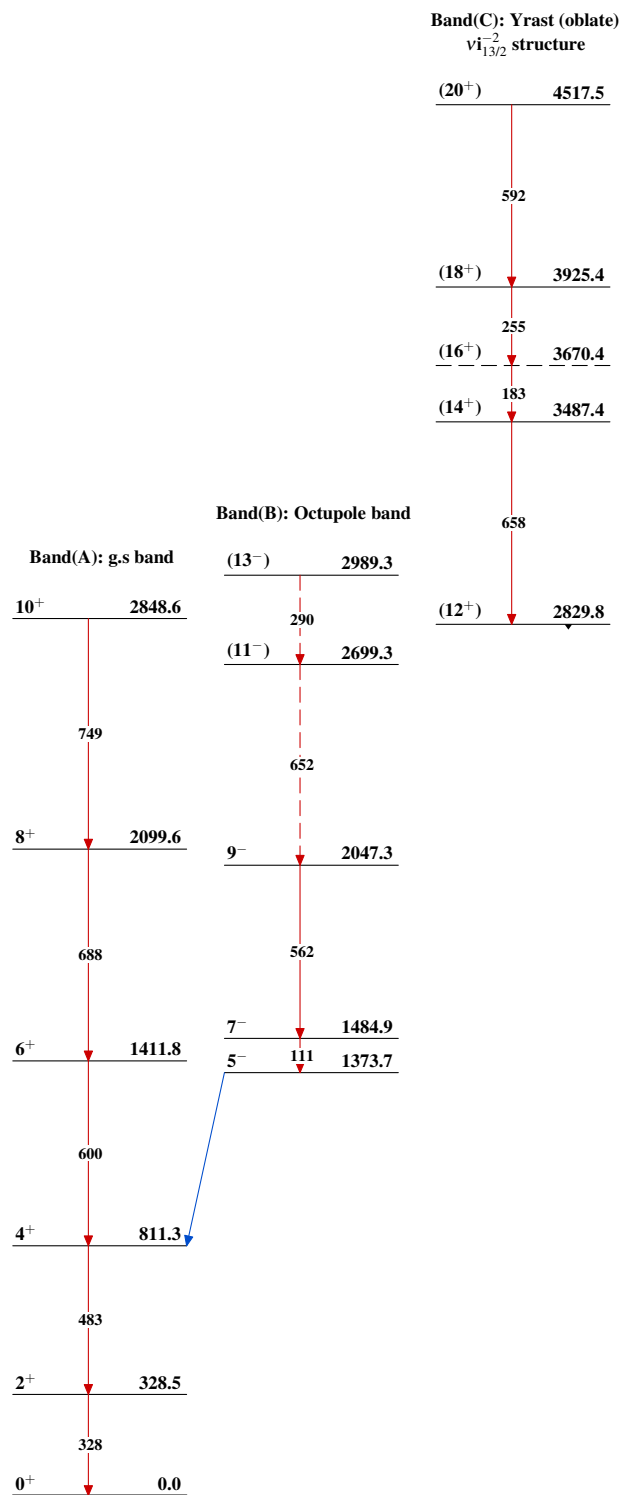
## Level Scheme

Intensities: Relative  $I_\gamma$ 

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

 $^{194}_{78}\text{Pt}_{116}$

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$^{194}_{78}\text{Pt}_{116}$