

$^9\text{Be}(^{208}\text{Pb},\text{X}\gamma)$ 2009Po02,2011St21

| Type | Author | History | Citation | Literature Cutoff Date |
|-----------------|----------------------------------|---------|---------------------|------------------------|
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2011St21,2009Po02,2009St16,2008StZY,2008St20: ^{198}Os formed by fragmentation of ^{208}Pb beam at 1 GeV/nucleon from SIS accelerator at GSI facility. Nuclei of interest were separated using FRS. The transmitted ions were slowed in Al degraders and stopped in a plastic catcher. The catcher was surrounded by RISING γ -ray spectrometer. Measured E_γ , I_γ , $\gamma\gamma$, delayed γ -rays, lifetime of isomers.

Fully-stripped or some mixture of hydrogen- and He-like nuclei.

^{198}Os Levels

| E(level) | J^π [‡] | $T_{1/2}$ [#] | Comments |
|------------------------|----------------------|------------------------|--|
| 0.0 | 0^+ | | |
| 465.4 5 | (2^+) | | |
| 877.6 7 | (2^+) | | |
| 1073.6 7 | (4^+) | | |
| 1350.9 7 | (4^+) | | |
| 1680.8 7 | (5^-) | | |
| 1680.8+x | (7^-) | 16 ns 1 | %IT=100 E(level): x<90 keV. |
| 2224.8+x? [†] | (9^-) | | |
| 2751.7+x? [†] | | | |
| 3198.5+x? [†] | | | |
| 3198.5+y? | (12^+) | 18 ns 3 | %IT=100 E(level): Y=X+Z, Y<180 keV. |

[†] 447-527-544 cascade placed above the 1681+x level from 2008StZY based on the statement that all three γ -rays are in coincidence with each other and all the γ -rays in ^{198}Os shown in the level scheme in Fig. 2 of 2009Po02.

[‡] As assigned by 2009Po02 based on comparison with apparently similar level structure in ^{200}Pt . For levels above the 16-ns isomer at 1680.8+x, the assignments are from 2008StZY.

[#] From (particle) $\gamma(t)$ (2009Po02,2008StZY). Note that the half-lives of the two isomers are nearly the same within uncertainties.

$\gamma(^{198}\text{Os})$

| E_γ [†] | I_γ [†] | $E_i(\text{level})$ | J_i^π | E_f | J_f^π | Comments |
|-------------------------|-------------------------|---------------------|-----------|-----------|-----------|-----------------------------------|
| x | | 1680.8+x | (7^-) | 1680.8 | (5^-) | E_γ : x<90 keV (2008StZY). |
| z | | 3198.5+y? | (12^+) | 3198.5+x? | | E_γ : Z<90 keV (2008StZY). |
| 329.9 5 | 27 3 | 1680.8 | (5^-) | 1350.9 | (4^+) | |
| 412.1 5 | 16 3 | 877.6 | (2^+) | 465.4 | (2^+) | |
| 446.8 5 | 11 2 | 3198.5+x? | | 2751.7+x? | | |
| 465.4 5 | 100 4 | 465.4 | (2^+) | 0.0 | 0^+ | |
| 473.1 5 | 13 2 | 1350.9 | (4^+) | 877.6 | (2^+) | |
| 526.9 [‡] 5 | 10 2 | 2751.7+x? | | 2224.8+x? | (9^-) | |
| 544.0 [‡] 5 | 6 2 | 2224.8+x? | (9^-) | 1680.8+x | (7^-) | |
| 607.3 5 | 80 4 | 1680.8 | (5^-) | 1073.6 | (4^+) | |
| 608.2 5 | 80 4 | 1073.6 | (4^+) | 465.4 | (2^+) | |
| 885.6 5 | 19 3 | 1350.9 | (4^+) | 465.4 | (2^+) | |

[†] From e-mail reply of March 18, 2009 from Z. Podolyak, the source of data is 2008StZY.

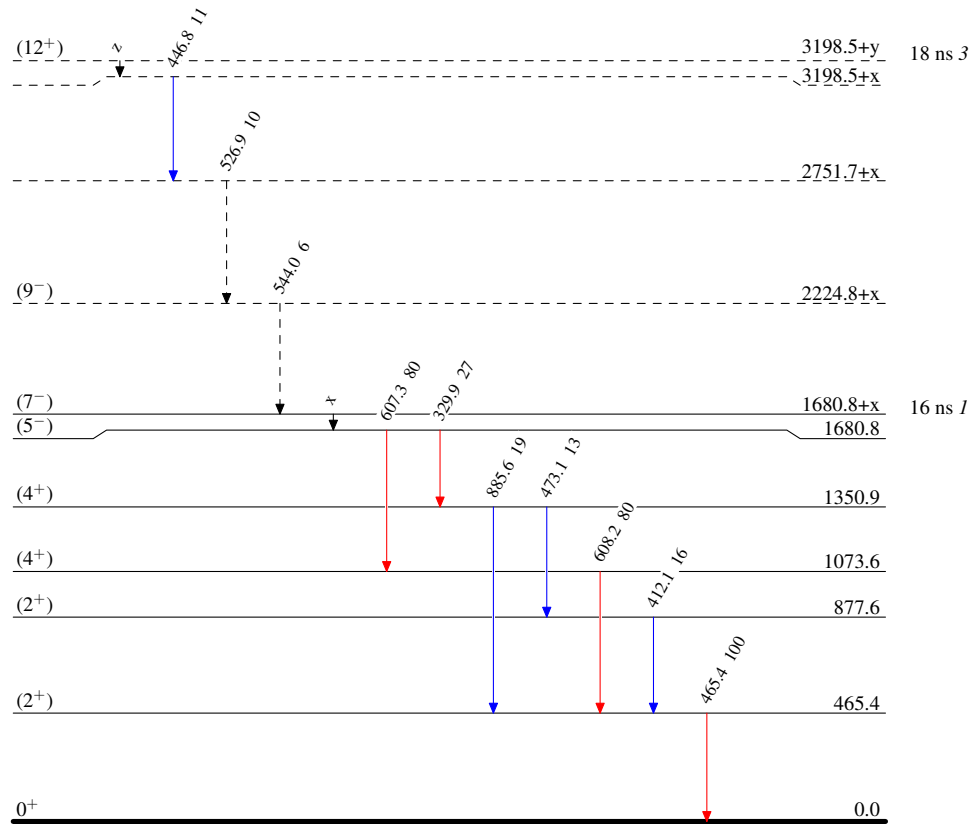
[‡] Placement of transition in the level scheme is uncertain.

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Legend

Level Scheme
 Intensities: Relative I_γ

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

 $^{198}_{76}\text{Os}_{122}$