# $^{191}$Ir($\gamma$,$\gamma'$) 1967Sc25,1995Kh02

| Type | Author | History Citation | Literature Cutoff Date |
|---|---|---|---|
| Full Evaluation | M. S. Basunia | NDS 195,368 (2024) | 1-Dec-2023 |

1967Sc25: 2 GBq $^{191}$Pt radioactive source in high speed rotor. Measured nuclear resonance fluorescence in natural Ir target with Ge(Li) detector at 125°. Deduced level width.
1995Kh02: 67 TBq $^{137}$Cs radioactive source, target natural Ir. $^{191}$Ir$^{m}$ $T_{1/2}$=4.9 s observed activity with NaI(Tl) detector.
Others: 1964La18, 1973Ve11, 1991Ca03, 1992Co19, 1995La26.

## $^{191}$Ir Levels

| E(level) | J$^{\pi}$[@] | $T_{1/2}$[†] | S[‡#] | Comments |
|---|---|---|---|---|
| 0.0 | 3/2$^+$ | | | |
| 539 | 3/2$^+$ | 10.7 ps *7* | $7.8\times10^{-6}$ *5* | $T_{1/2}$: From $\tau$=15.5 ps *11* as calculated by evaluator − see footnote, in 1967Sc25 − $\tau$=14.4 ps *11*. |
| 588 | 3/2$^+$,5/2$^+$ | ≈0.3 ps | $3.7\times10^{-4}$ *4* | $T_{1/2}$: ~ 0.25 ps if $J^{\pi}$=3/2$^+$, or ~ 0.37 ps *6* assuming $J^{\pi}$=5/2$^+$, deduced from (1.76 ps *20*)×(g2/g1)($\Gamma_0/\Gamma$)$^2$. |
| 624 | (1/2$^+$) | >9 ps | $<1.5\times10^{-5}$ | |
| 659 | (3/2$^-$) | >0.05 fs | $<1.9\times10^{-3}$ | $T_{1/2}$: Other: <0.12 ns from null observation of isomer formation by 1995Kh02. Other: 0.78 ps *+1590−38* (1995La25). |

[†] Calculated by evaluator using $\Gamma_0/\Gamma$ from adopted gammas branching ratio and $g_2\Gamma_0^2/g_1\Gamma$ (eV).
[‡] Label=$g_2\Gamma_0^2/g_1\Gamma$.
[#] In units of eV. $g_1$=2(J(g.s.)+1), $g_2$=2(J(excited level)+1); $\Gamma_0$ and $\Gamma$ are the ground state and total $\gamma$ decay widths, respectively. These are listed values in 1967Sc25, average of data in 1967Sc25 and 1964La18.
[@] From Adopted Levels.

## $\gamma$($^{191}$Ir)

| $E_\gamma$ | $\Gamma_{\gamma0}/\Gamma$[†] | $E_i$(level) | $J_i^{\pi}$ | $E_f$ | $J_f^{\pi}$ | Comments |
|---|---|---|---|---|---|---|
| 539 | 0.43 *2* | 539 | 3/2$^+$ | 0.0 | 3/2$^+$ | $\Gamma_{\gamma0}/\Gamma$: 0.41 *2* in 1967Sc25. |
| 588 | ≈0.45 | 588 | 3/2$^+$,5/2$^+$ | 0.0 | 3/2$^+$ | $\Gamma_{\gamma0}/\Gamma$: Other: <0.5 in 1967Sc25. |
| 624 | 0.57 *2* | 624 | (1/2$^+$) | 0.0 | 3/2$^+$ | $\Gamma_{\gamma0}/\Gamma$: Other: 0.60 in 1967Sc25. |
| 659 | 0.015 *2* | 659 | (3/2$^-$) | 0.0 | 3/2$^+$ | $\Gamma_{\gamma0}/\Gamma$: Other: 0.07 in 1967Sc25. |

[†] From Adopted Gammas.

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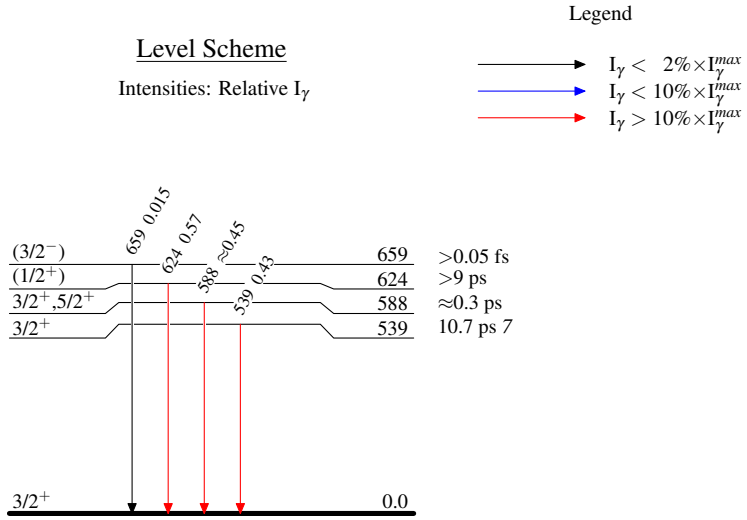
Level Scheme

Intensities: Relative $I_\gamma$




$^{191}_{77}Ir_{114}$