## $^{248}$Cm SF decay 2001Bh04

History

| Type | Author | Citation | Literature Cutoff Date |
|---|---|---|---|
| Full Evaluation | Yu. Khazov, I. Mitropolsky, A. Rodionov | NDS 107, 2715 (2006) | 17-Jul-2006 |

Parent: $^{248}$Cm: E=0; $J^\pi=0^+$; $T_{1/2}=3.48\times10^5$ y *6*; %SF decay=8.39 *16*

2001Bh04: measured Eγ and γγ using GAMMASPHERE detector array comprised 99 escape-suppressed large volume Ge detectors.

### $^{131}$Sn Levels

| E(level)[†] | $J^\pi$ | $T_{1/2}$ | Comments |
|---|---|---|---|
| 0+x | (11/2$^-$) | | E(level): x=69 *14* from the β-spectrum or x=65.1 *3* from the level scheme (2004Fo06). Additional information 1. configuration: $\nu h^{-1}_{11/2}$. |
| 4102.3+x[‡] *6* | (15/2$^-$) | | |
| 4220.1+x[@] *8* | (13/2$^+$) | | |
| 4247.1+x[@] *8* | (15/2$^+$) | | |
| 4273.2+x[@] *6* | (17/2$^+$) | | |
| 4423.2+x[#] *6* | (15/2$^+$) | | |
| 4446.5+x[‡] *7* | (19/2$^-$) | | |
| 4510.7+x[‡] *9* | (17/2$^-$) | | |
| 4558.2+x[#] *12* | (19/2$^+$) | | |
| 4576.2+x[#] *6* | (17/2$^+$) | | |
| 4605.5+x[‡] *12* | (23/2$^-$) | 0.3 μs | $T_{1/2}$: from coincidences with known transitions in fission partners. |
| 4743.5+x[‡] *12* | (21/2$^-$) | | |
| 4768.7+x *14* | | | |
| 4990.2+x[#] *16* | (21/2$^+$) | | |

[†] From least-squares fit to Eγ (by evaluators), assuming 1 keV uncertainty for each γ ray.
[‡] Band(A): $\nu(f_{7/2}h^{-1}_{11/2})$ multiplet.
[#] Band(B): $\nu(f_{7/2}h^{-1}_{11/2}d^{-1}_{3/2})$ multiplet.
[@] Band(C): $\nu h^{-1}_{11/2}\otimes(3^-$ octupole) multiplet.

### γ($^{131}$Sn)

| Eγ | Iγ[†] | $E_i$(level) | $J^\pi_i$ | $E_f$ | $J^\pi_f$ | Eγ | Iγ[†] | $E_i$(level) | $J^\pi_i$ | $E_f$ | $J^\pi_f$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 63[‡] | | 4510.7+x | (17/2$^-$) | 4446.5+x | (19/2$^-$) | 329 | 14 | 4576.2+x | (17/2$^+$) | 4247.1+x | (15/2$^+$) |
| 150 | 14 | 4423.2+x | (15/2$^+$) | 4273.2+x | (17/2$^+$) | 344 | 14 | 4446.5+x | (19/2$^-$) | 4102.3+x | (15/2$^-$) |
| 159 | 14 | 4605.5+x | (23/2$^-$) | 4446.5+x | (19/2$^-$) | 408 | 22 | 4510.7+x | (17/2$^-$) | 4102.3+x | (15/2$^-$) |
| 171 | 7 | 4273.2+x | (17/2$^+$) | 4102.3+x | (15/2$^-$) | 432 | 14 | 4990.2+x | (21/2$^+$) | 4558.2+x | (19/2$^+$) |
| 173 | 64 | 4446.5+x | (19/2$^-$) | 4273.2+x | (17/2$^+$) | 474 | 7 | 4576.2+x | (17/2$^+$) | 4102.3+x | (15/2$^-$) |
| 203 | 22 | 4423.2+x | (15/2$^+$) | 4220.1+x | (13/2$^+$) | 4102 | 36 | 4102.3+x | (15/2$^-$) | 0+x | (11/2$^-$) |
| 238 | 7 | 4510.7+x | (17/2$^-$) | 4273.2+x | (17/2$^+$) | 4220 | 14 | 4220.1+x | (13/2$^+$) | 0+x | (11/2$^-$) |
| 258 | 29 | 4768.7+x | | 4510.7+x | (17/2$^-$) | 4247 | 22 | 4247.1+x | (15/2$^+$) | 0+x | (11/2$^-$) |
| 285 | 43 | 4558.2+x | (19/2$^+$) | 4273.2+x | (17/2$^+$) | 4273 | 100 | 4273.2+x | (17/2$^+$) | 0+x | (11/2$^-$) |
| 297 | 14 | 4743.5+x | (21/2$^-$) | 4446.5+x | (19/2$^-$) | 4423 | 14 | 4423.2+x | (15/2$^+$) | 0+x | (11/2$^-$) |
| 303 | 7 | 4576.2+x | (17/2$^+$) | 4273.2+x | (17/2$^+$) | 4447 | 7 | 4446.5+x | (19/2$^-$) | 0+x | (11/2$^-$) |
| 321 | 14 | 4423.2+x | (15/2$^+$) | 4102.3+x | (15/2$^-$) | 4576 | 7 | 4576.2+x | (17/2$^+$) | 0+x | (11/2$^-$) |

[†] Estimated (by the evaluators) from the thickness of arrows in Figure 2 of 2001Bh04.
[‡] Placement of transition in the level scheme is uncertain.

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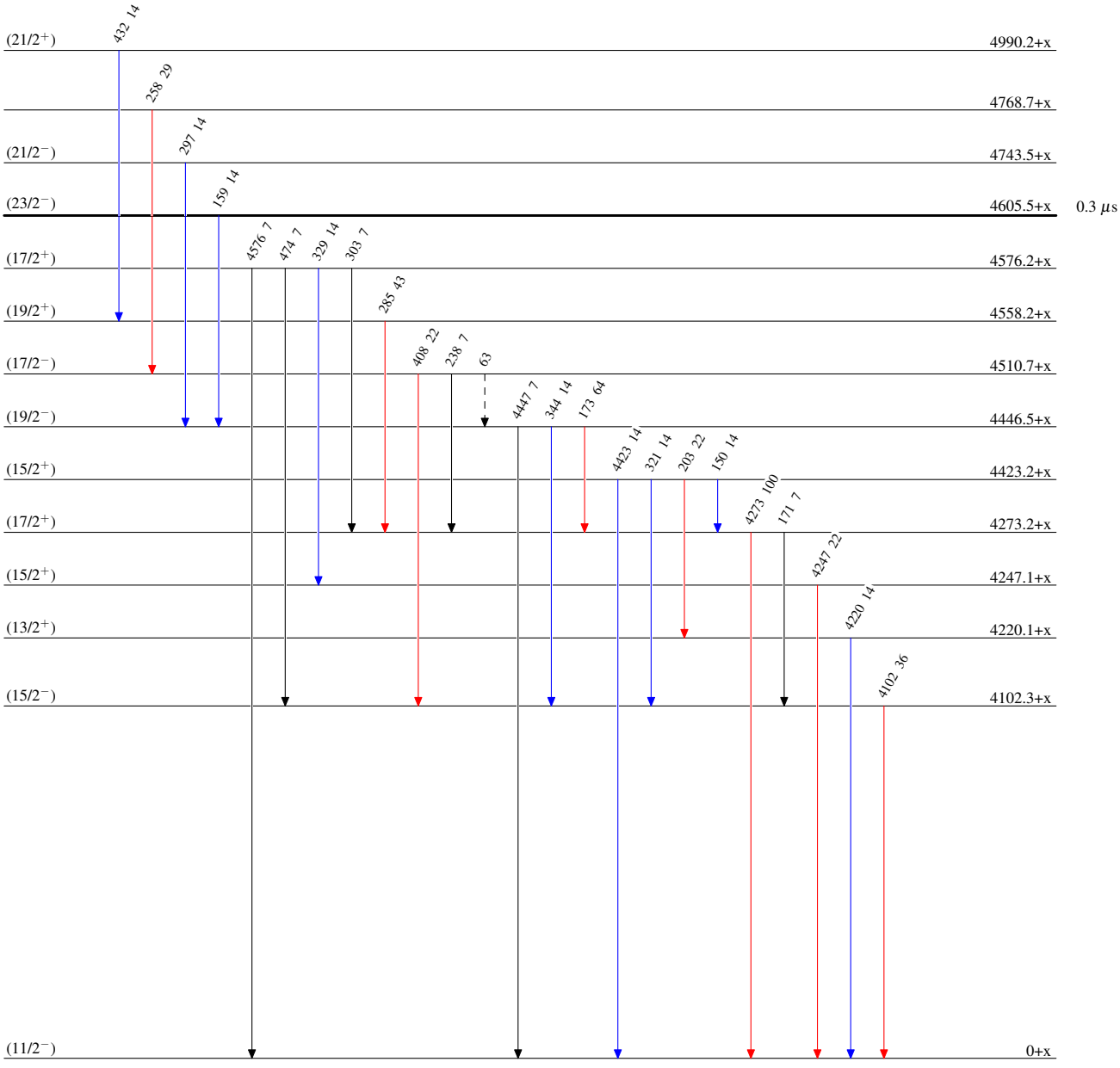
Level Scheme

Intensities: Relative $I_\gamma$

Legend

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




$^{131}_{50}Sn_{81}$

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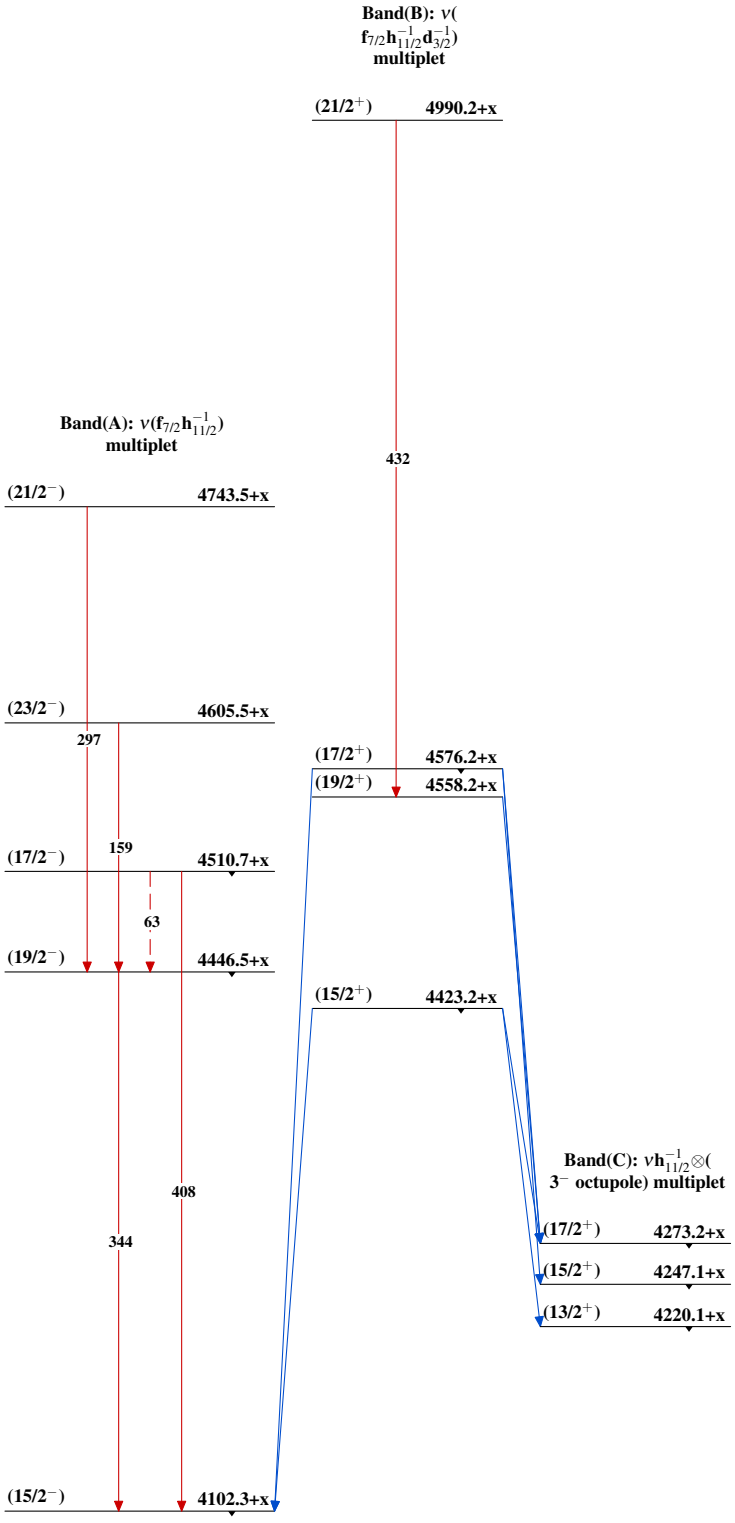


$^{131}_{50}Sn_{81}$