

$^{208}\text{Pb}(\text{n},\gamma)$: E=thermal 2002BI08

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	J. Chen [#] and F. G. Kondev		NDS 126, 373 (2015)	30-Sep-2013

S(n)=3937.4 *I3* from 2012Wa38.

Additional information 1.

2002BI08: cold neutrons were produced from the Research Reactor NBSR at the National Institute for Standards and Technology (NIST Center for Neutron Research). A target of 2.318 g lead sample was used. γ -rays were detected by the NIST Prompt Gamma Activation Analysis (PGAA). Spectrometer. Measured E_γ , I_γ . Deduced levels.

Other: 1973A106.

Measured thermal-neutron capture cross section=230 μb *I2* (2002BI08).

 ^{209}Pb Levels

$E(\text{level})^\dagger$	J^π^\ddagger
0	9/2 ⁺
1567.1 <i>3</i>	5/2 ⁺
2032.4 <i>4</i>	1/2 ⁺
2149.7 <i>7</i>	1/2 ⁻
2316.5 <i>9</i>	3/2 ⁻
2537.7 <i>5</i>	3/2 ⁺
3938.0 <i>5</i>	1/2 ⁺

[†] From a least-squares fit to γ -ray energies.

[‡] From Adopted Levels.

 $\gamma(^{209}\text{Pb})$

E_γ^\dagger	I_γ^\ddagger	$E_i(\text{level})$	J_i^π	E_f	J_f^π
465.3 <i>3</i>	175 <i>12</i>	2032.4	1/2 ⁺	1567.1	5/2 ⁺
970.5 <i>5</i>	23 <i>7</i>	2537.7	3/2 ⁺	1567.1	5/2 ⁺
1400.3 <i>3</i>	25 <i>5</i>	3938.0	1/2 ⁺	2537.7	3/2 ⁺
1567.1 <i>3</i>	230 <i>12</i>	1567.1	5/2 ⁺	0	9/2 ⁺
1621.5 <i>7</i>	28 <i>9</i>	3938.0	1/2 ⁺	2316.5	3/2 ⁻
1788.3 <i>4</i>	51 <i>9</i>	3938.0	1/2 ⁺	2149.7	1/2 ⁻
1905.7 <i>4</i>	78 <i>10</i>	3938.0	1/2 ⁺	2032.4	1/2 ⁺

[†] Transitions from levels at E=2150 and 2317 were unobserved because of the large background at low γ -ray energies.

[‡] Values are for γ -ray cross sections in units of μb by normalizing the observed γ yields to that of the 1262-keV γ -ray from the $^{12}\text{C}(\text{n},\gamma)^{13}\text{C}$ reaction.

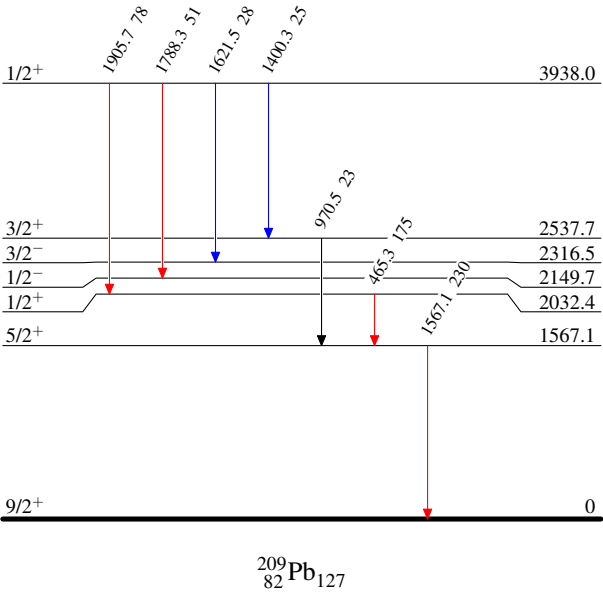
$^{208}\text{Pb}(\text{n},\gamma): \text{E=thermal}$ **2002BI08**

Level Scheme

Intensities: Relative I_γ

Legend

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



$^{209}_{82}\text{Pb}_{127}$