

$^{206}\text{Pb}(\text{p,p}'), ^{206}\text{Pb}(\text{p,p}'\gamma)$  [1983Fi10](#), [1972Ta18](#), [1976Ju03](#)

| Type            | Author       | History<br>Citation | Literature Cutoff Date |
|-----------------|--------------|---------------------|------------------------|
| Full Evaluation | F. G. Kondev | NDS 201,346 (2025)  | 21-Jan-2025            |

[1983Fi10](#): (p,p') reaction at E(p)=35 MeV; Target: enriched  $^{206}\text{Pb}$  (97.22%); Measured:  $p'(\theta)$  using magnetic spectrometer with nuclear emulsions with FWHM=6-9 keV and with proportional counters with FWHM=15-20 keV.

Others (p,p'): [1964St15](#), [1966Ka02](#), [1967Va10](#), [1968Le09](#), [1968Ri11](#), [1969Fi01](#), [1969So12](#), [1970Gl01](#), [1971Ma17](#), [1972AdZR](#) (or [1972TaZH](#)), [1972Ay01](#), [1974Gl03](#), [1978Ba23](#), [1983Ba44](#), and [1983Ti03](#).

[1972Ta18](#): (p,p'γ) reaction at E(p)=12.25 MeV. Measured ce using Si(Li) detector.

[1976Ju03](#): (p,p'γ) reaction at E(p)=12.3 MeV. Measured ce using magnetic spectrometer.

Others (p,p'γ): [1990Tr01](#), [1981Di08](#), [1967Co20](#).

 $^{206}\text{Pb}$  Levels

| E(level) <sup>†</sup> | J <sup>π</sup> | T <sub>1/2</sub> | L <sup>†</sup> | Comments                                                                                                                                                                               |
|-----------------------|----------------|------------------|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0.0 <sup>‡</sup>      | 0 <sup>+</sup> | 0.75 ns 4        | 2              | E(level): Other: 1170 keV 3 in <a href="#">1983Fi10</a> .<br>T <sub>1/2</sub> : Weighted average of 0.67 ns 7 ( <a href="#">1972Ta18</a> ) and 0.77 ns 4 ( <a href="#">1976Ju03</a> ). |
| 803.1 <sup>‡</sup>    |                |                  |                |                                                                                                                                                                                        |
| 1165 2                |                |                  |                |                                                                                                                                                                                        |
| 1344 2                |                |                  |                |                                                                                                                                                                                        |
| 1469 2                |                |                  |                |                                                                                                                                                                                        |
| 1686 1                |                |                  |                |                                                                                                                                                                                        |
| 1708 3                |                |                  |                |                                                                                                                                                                                        |
| 1787 2                |                |                  |                |                                                                                                                                                                                        |
| 1997.7 <sup>‡</sup>   |                |                  |                |                                                                                                                                                                                        |
| 2151 3                |                |                  |                |                                                                                                                                                                                        |
| 2200.23 <sup>‡</sup>  | 142 μs 7       | 7                | (2)            | T <sub>1/2</sub> : From 803γ(t) and 881γ(t) in <a href="#">1967Co20</a> .                                                                                                              |
| 2385 2                |                |                  |                |                                                                                                                                                                                        |
| 2422 3                |                |                  |                |                                                                                                                                                                                        |
| 2647.9 <sup>‡</sup>   |                |                  |                |                                                                                                                                                                                        |
| 2782.26 <sup>‡</sup>  |                |                  |                |                                                                                                                                                                                        |
| 2831 5                |                |                  |                |                                                                                                                                                                                        |
| 2861 5                |                |                  |                |                                                                                                                                                                                        |
| 2928 <sup>‡</sup>     |                |                  |                |                                                                                                                                                                                        |
| 2960 2                |                |                  |                |                                                                                                                                                                                        |
| 2988 3                |                |                  |                |                                                                                                                                                                                        |
| 3014 3                |                |                  | 5              |                                                                                                                                                                                        |
| 3033 3                |                |                  |                |                                                                                                                                                                                        |
| 3121 3                |                |                  |                |                                                                                                                                                                                        |
| 3139 6                |                |                  |                |                                                                                                                                                                                        |
| 3193 3                |                |                  |                |                                                                                                                                                                                        |
| 3224 5                |                |                  |                |                                                                                                                                                                                        |
| 3257 1                |                |                  |                |                                                                                                                                                                                        |
| 3277 1                |                |                  |                |                                                                                                                                                                                        |
| 3328 5                |                |                  |                |                                                                                                                                                                                        |
| 3377 2                |                |                  |                |                                                                                                                                                                                        |
| 3399 1                |                |                  | 5              |                                                                                                                                                                                        |
| 3450 1                |                |                  |                |                                                                                                                                                                                        |
| 3478 4                |                |                  |                |                                                                                                                                                                                        |
| 3515 3                |                |                  |                |                                                                                                                                                                                        |
| 3558 2                |                |                  |                |                                                                                                                                                                                        |
| 3603 4                |                |                  |                |                                                                                                                                                                                        |
| 3655 5                |                |                  |                |                                                                                                                                                                                        |
| 3675 6                |                |                  |                |                                                                                                                                                                                        |
| 3718 2                |                |                  |                |                                                                                                                                                                                        |

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$^{206}\text{Pb}(\text{p},\text{p}'), ^{206}\text{Pb}(\text{p},\text{p}'\gamma)$  [1983Fi10,1972Ta18,1976Ju03](#) (continued) $^{206}\text{Pb}$  Levels (continued)

| <u>E(level)<sup>†</sup></u> | <u>L<sup>†</sup></u> |
|-----------------------------|----------------------|
| 3737 4                      |                      |
| 3772 2                      | 5                    |
| 3795 6                      |                      |
| 3827 5                      |                      |
| 3847 4                      |                      |
| 3883 5                      |                      |
| 3898 5                      |                      |
| 3963 5                      | (8)                  |
| 3980 5                      |                      |
| 3997 5                      |                      |
| 4006 3                      | (4)                  |
| 4044 3                      | (6,7)                |
| 4059 5                      | (5)                  |
| 4073 7                      |                      |
| 4107 2                      | 2                    |
| 4123 3                      | 6                    |
| 4145 5                      |                      |
| 4168 4                      | (3)                  |
| 4183 5                      |                      |
| 4219 3                      | (4)                  |
| 4242 3                      | (2)                  |
| 4292 5                      | (3)                  |
| 4333 2                      | 4                    |
| 4357 3                      | 6                    |
| 4391 5                      | (5)                  |
| 4420 5                      |                      |
| 4456 5                      | (5)                  |
| 4474 3                      | 5                    |
| 4496 5                      | (5,6)                |
| 4534 4                      | 5                    |
| 4580 3                      | 8                    |
| 4595 5                      |                      |
| 4614 7                      | (3)                  |
| 4647 5                      |                      |
| 4664 4                      | 5                    |
| 4691 7                      |                      |
| 4710 4                      | (4,5)                |
| 4729 6                      |                      |
| 4742 5                      |                      |
| 4770 4                      |                      |
| 4793 5                      | 5                    |
| 4809 6                      | (5,6)                |
| 4828 4                      | (7)                  |
| 4860 6                      | (6)                  |
| 4873 4                      |                      |
| 4889 5                      | (3)                  |
| 4901 4                      |                      |
| 4916 4                      | (3)                  |
| 4939 4                      | (6)                  |
| 4960 7                      | (3)                  |
| 4986 3                      | (3)                  |
| 5007 4                      | (4)                  |
| 5025 5                      |                      |
| 5045 6                      |                      |
| 5069 6                      |                      |
| 5092 4                      | (3,4)                |
| 5111 5                      | (4)                  |

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$^{206}\text{Pb}(\text{p},\text{p}'), ^{206}\text{Pb}(\text{p},\text{p}'\gamma)$  [1983Fi10,1972Ta18,1976Ju03](#) (continued) $^{206}\text{Pb}$  Levels (continued)

| <u>E(level)<sup>†</sup></u> | <u>L<sup>†</sup></u> | <u>Comments</u>                                     |
|-----------------------------|----------------------|-----------------------------------------------------|
| 5126 6                      | (5)                  |                                                     |
| 5138 7                      |                      |                                                     |
| 5169 4                      |                      |                                                     |
| 5190 5                      |                      |                                                     |
| 5209 5                      |                      |                                                     |
| 5227 8                      |                      |                                                     |
| 5245 3                      | (3)                  |                                                     |
| 5279 5                      |                      |                                                     |
| 5296 6                      |                      |                                                     |
| 5309 4                      |                      |                                                     |
| 5332 7                      | (3)                  |                                                     |
| 5365 6                      |                      |                                                     |
| 5403 6                      |                      |                                                     |
| 5422 6                      | (4)                  |                                                     |
| 5435 7                      |                      |                                                     |
| 5452 8                      | (4)                  |                                                     |
| 5463 6                      | (3)                  |                                                     |
| 5485 4                      | (4)                  |                                                     |
| 5507 6                      |                      |                                                     |
| 5533 6                      | (4)                  |                                                     |
| 5544 7                      |                      |                                                     |
| 5561 8                      | (4)                  |                                                     |
| 5588 8                      | (5)                  |                                                     |
| 5599 8                      |                      |                                                     |
| 5619 8                      |                      |                                                     |
| 5640 8                      | (3)                  |                                                     |
| 5653 8                      |                      |                                                     |
| 5676 6                      |                      |                                                     |
| 5687 4                      |                      |                                                     |
| 5703 8                      | (5)                  |                                                     |
| 5715 7                      |                      |                                                     |
| 5722 7                      |                      |                                                     |
| 5747 8                      |                      |                                                     |
| 5763 8                      |                      |                                                     |
| 5779 8                      | (5)                  |                                                     |
| 5796 7                      | (4,5)                |                                                     |
| 5823 8                      |                      |                                                     |
| 5843 8                      |                      |                                                     |
| 5860 7                      |                      |                                                     |
| 5885 4                      |                      |                                                     |
| 5911 7                      | (4)                  | E(level): Authors' value of 5011 corrected to 5911. |
| 5949 7                      |                      |                                                     |
| 5959 5                      |                      |                                                     |
| 5974 5                      |                      |                                                     |
| 5990 8                      |                      |                                                     |
| 6001 5                      |                      |                                                     |
| 6023 7                      |                      |                                                     |
| 6040 5                      |                      |                                                     |
| 6065 8                      |                      |                                                     |
| 6071 4                      |                      |                                                     |
| 6083 7                      |                      |                                                     |
| 6117 7                      |                      |                                                     |
| 6146 7                      |                      |                                                     |
| 6154 5                      |                      |                                                     |
| 6167 6                      |                      |                                                     |
| 6181 7                      |                      |                                                     |
| 6198 7                      | (6)                  |                                                     |

Continued on next page (footnotes at end of table)

<sup>206</sup>Pb(p,p'), <sup>206</sup>Pb(p,p'γ)    **1983Fi10,1972Ta18,1976Ju03 (continued)**

<sup>206</sup>Pb Levels (continued)

| <u>E(level)<sup>†</sup></u> | <u>L<sup>†</sup></u> | <u>E(level)<sup>†</sup></u> | <u>E(level)<sup>†</sup></u> | <u>E(level)<sup>†</sup></u> |
|-----------------------------|----------------------|-----------------------------|-----------------------------|-----------------------------|
| 6229 8                      |                      | 6382 8                      | 6524 9                      | 6689 11                     |
| 6264 6                      | (5)                  | 6408 8                      | 6545 10                     | 6692 7                      |
| 6284 8                      |                      | 6433 7                      | 6574 8                      | 6761 5                      |
| 6302 7                      |                      | 6444 7                      | 6593 9                      | 6806 6                      |
| 6314 6                      |                      | 6459 7                      | 6617 8                      |                             |
| 6332 6                      |                      | 6480 7                      | 6634 10                     |                             |
| 6346 6                      |                      | 6496 9                      | 6655 8                      |                             |

<sup>†</sup> From [1983Fi10](#), unless otherwise stated.  
<sup>‡</sup> Value used by [1983Fi10](#) as a calibrant.

γ(<sup>206</sup>Pb)

| <u>E<sub>γ</sub></u> | <u>E<sub>i</sub>(level)</u> | <u>J<sub>i</sub><sup>π</sup></u> | <u>E<sub>f</sub></u> | <u>Mult.</u> | <u>Comments</u>                                                                                                                                                                                                                                                             |
|----------------------|-----------------------------|----------------------------------|----------------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1165 2               | 1165                        | 0 <sup>+</sup>                   | 0.0                  | E0           | E <sub>γ</sub> : From <a href="#">1990Tr01</a> . Other: 1166 keV 3 ( <a href="#">1972Ta18,1976Ju03</a> ).<br>Mult.: ce(K)/ce(L)=5.61 38 ( <a href="#">1990Tr01</a> ).<br>Monopole strength ρ=0.026 3 ( <a href="#">1972Ta18</a> ) and 0.034 2 ( <a href="#">1976Ju03</a> ). |

<sup>206</sup>Pb(p,p'), <sup>206</sup>Pb(p,p'γ)    **1983Fi10,1972Ta18,1976Ju03**

Level Scheme

