

$^{208}\text{Pb}(\text{n},\text{X})$: resonances [1986Ho19](#)

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

$S(\text{n})=3937.4$ *13* ([2012Wa38](#)).

[1986Ho19](#): $E=50$ - 1005 keV neutron beams were produced from the Oak Ridge Electron Linear Accelerator (ORELA). Target was 45.71 g/cm² ^{208}Pb (72.4% enriched). Measured $\sigma(E_{\text{n}})$. Deduced levels, J^{π} , L, widths from R-Matrix analysis.

Other: [1967Gi13](#) ($E=70, 77$ keV), [1961Ne16](#) ($E<55$ keV), [1973Mu14](#) ($E=80$ - 1900 keV).

The neutron resonances are given explicitly here since several of the charged particle reactions report peaks above the neutron separation energy. $S(\text{n})=3937.4$ *13*, and the resonance energies are given in lab coordinates.

 ^{209}Pb Levels

E(level)	$J^{\pi\dagger}$	L [†]	$\Gamma_{\text{n}}(\text{eV})$	E(level)	$J^{\pi\dagger}$	L [†]	$\Gamma_{\text{n}}(\text{eV})$
$S(\text{n})+47.26$ 2		(2)	0.02 <i>1</i>	$S(\text{n})+636.1$ 2	$7/2^{-}$	3	293 <i>5</i>
$S(\text{n})+71.21$ 2	$3/2^{-}$	1	101 <i>5</i>	$S(\text{n})+686.8$ 2	$5/2^{-}$	3	191 <i>9</i>
$S(\text{n})+78.25$ 2	$3/2^{-}$	1	958 <i>10</i>	$S(\text{n})+693.2$ 2	$(5/2)^{-}$	3	74 <i>5</i>
$S(\text{n})+86.56$ 3	$1/2^{-}$	1	75.4 <i>30</i>	$S(\text{n})+699.5$ 2	$5/2^{+}$	2	304 <i>4</i>
$S(\text{n})+117.22$ 4	$3/2^{-}$	1	317 <i>6</i>	$S(\text{n})+721.0$ 2	$5/2^{+}$	2	3938 <i>43</i>
$S(\text{n})+130.17$ 4	$(5/2)^{+}$	2	9.7 <i>9</i>	$S(\text{n})+721.7$ 2	$3/2^{-}$	1	564 <i>15</i>
$S(\text{n})+153.25$ 5	$(3/2)^{-}$	1	10.5 <i>10</i>	$S(\text{n})+723.0$ 2	$(7/2)^{-}$	3	165 <i>6</i>
$S(\text{n})+163.50$ 5	$(3/2)^{-}$	1	8.2 <i>10</i>	$S(\text{n})+739.1$ 2	$5/2^{-}$	3	193 <i>5</i>
$S(\text{n})+168.00$ 5	$(5/2)^{+}$	2	7.6 <i>8</i>	$S(\text{n})+764.3$ 3	$3/2^{-}$	1	2643 <i>30</i>
$S(\text{n})+168.53$ 5	$3/2^{-}$	1	28.4 <i>14</i>	$S(\text{n})+764.9$ 3	$7/2^{-}$	3	369 <i>7</i>
$S(\text{n})+169.38$ 5	$(3/2)^{+}$	2	21.9 <i>16</i>	$S(\text{n})+786.1$ 3	$5/2^{-}$	3	116 <i>5</i>
$S(\text{n})+270.10$ 8	$3/2^{+}$	2	120 <i>4</i>	$S(\text{n})+814.1$ 3	$7/2^{-}$	3	114 <i>5</i>
$S(\text{n})+277.99$ 9	$1/2^{-}$	1	315 <i>9</i>	$S(\text{n})+814.4$ 3	$1/2^{-}$	1	375 <i>19</i>
$S(\text{n})+324.23$ 10	$3/2^{-}$	1	135 <i>3</i>	$S(\text{n})+815.7$ 3	$5/2^{+}$	2	8916 <i>90</i>
$S(\text{n})+354.0$ 1	$(5/2)^{-}$		23 <i>2</i>	$S(\text{n})+824.0$ 3	$5/2^{-}$	3	221 <i>7</i>
$S(\text{n})+354.1$ 1	$3/2^{+}$	2	4989 <i>16</i>	$S(\text{n})+832.1$ 3	$(7/2)^{-}$	3	80 <i>4</i>
$S(\text{n})+407.1$ 1	$3/2^{-}$	1	222 <i>4</i>	$S(\text{n})+850.5$ 3	$3/2^{+}$	2	4074 <i>50</i>
$S(\text{n})+418.5$ 2	$3/2^{-}$	1	76 <i>2</i>	$S(\text{n})+861.0$ 3	$5/2^{-}$	3	810 <i>12</i>
$S(\text{n})+438.3$ 2	$(5/2)^{-}$		10.5 <i>12</i>	$S(\text{n})+877.8$ 3	$3/2^{-}$	1	484 <i>15</i>
$S(\text{n})+489.0$ 2	$1/2^{-}$	1	2992 <i>35</i>	$S(\text{n})+884.8$ 3	$1/2^{-}$	1	4779 <i>83</i>
$S(\text{n})+505.7$ 2	$3/2^{-}$	1	194 <i>6</i>	$S(\text{n})+888.2$ 3	$1/2^{+}$	0	5490 <i>75</i>
$S(\text{n})+506.0$ 2	$1/2^{+}$	0	53.59×10^3 25	$S(\text{n})+910.6$ 3	$1/2^{-}$	1	422 <i>23</i>
$S(\text{n})+527.1$ 2	$5/2^{+}$	2	4625 <i>50</i>	$S(\text{n})+911.6$ 3	$7/2^{-}$	3	276 <i>9</i>
$S(\text{n})+563.9$ 2	$1/2^{-}$	1	531 <i>15</i>	$S(\text{n})+920.5$ 3	$5/2^{-}$	3	330 <i>10</i>
$S(\text{n})+567.6$ 2	$(7/2)^{-}$	3	16.2 <i>18</i>	$S(\text{n})+927.0$ 3	$1/2^{-}$	1	192 <i>14</i>
$S(\text{n})+570.8$ 2	$(3/2)^{+}$	2	9.9 <i>11</i>	$S(\text{n})+944.4$ 3	$3/2^{+}$	2	3213 <i>43</i>
$S(\text{n})+583.6$ 2	$(5/2)^{-}$		34 <i>3</i>	$S(\text{n})+947.2$ 3	$1/2^{-}$	1	1336 <i>63</i>
$S(\text{n})+597.6$ 2	$(5/2)^{-}$	3	74 <i>4</i>	$S(\text{n})+947.9$ 3	$3/2^{-}$	1	1490 <i>50</i>
$S(\text{n})+609.1$ 2	$(5/2)^{-}$	3	119 <i>5</i>	$S(\text{n})+949.6$ 3	$5/2^{+}$	2	391 <i>13</i>
$S(\text{n})+613.0$ 2	$(7/2)^{-}$	3	140 <i>3</i>	$S(\text{n})+974.3$ 3	$3/2^{-}$	1	1647 <i>52</i>
$S(\text{n})+615.9$ 2	$(5/2)^{+}$		30 <i>2</i>	$S(\text{n})+984.2$ 3	$3/2^{-}$	1	2384 <i>55</i>
$S(\text{n})+634.9$ 2	$5/2^{-}$	3	623 <i>9</i>	$S(\text{n})+997.7$ 3	$1/2^{+}$	0	3889 <i>60</i>

[†] From R-matrix fits to experimental cross sections in [1986Ho19](#). J^{π} given in parentheses are assumed by authors for the extraction of neutron widths.