## $^{208}\text{Pb}(p,\gamma)$: IAR　　1971Sn03

### History

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

S(p)=3799.0 $8$ from 2012Wa38.

1971Sn03:E=8.8-18.0 proton beams were produced from the Stony Brook FN Tandem Van de Graaf accelerator. Target was 3.5 mg/cm$^2$ self-supporting $^{208}$Pb. $\gamma$-rays were detected in a large NaI spectrometer. Measured $\sigma(E\gamma)$. Authors obtained resonance energies and total widths but quote values only for the $^{209}$Pb ground-state analog. They claim good agreement with values of 1968Wh02 based on (p,p′).

Other:

1968Cr05: proton beams were produced from the University of Washington High Voltage FN tandem accelerator. $\gamma$-rays were detected with a 20.7 cm$^3$ coaxial Ge(Li) detector. Measured $\sigma(E\gamma,\theta)$. Deduced levels.

### $^{209}\text{Bi}$ Levels

$\Gamma_\gamma(nlj)$ are radiative widths to proton states with configuration=nlj deduced in 1971Sn03 using $\Gamma_p$ from 1968Wh02.

| E(level)[†] | J$^{\pi}$[‡] | Comments |
|-------------|--------------|----------|
| S(p)+14899 | 9/2$^+$ | $\Gamma$=275 keV $20$ |
| | | E(level): E(res)=14930 $30$ (1971Sn03). |
| | | $\Gamma_\gamma(2f_{7/2})$=110 eV, $\Gamma_\gamma(1h_{9/2})$<10 eV. |
| S(p)+15658 | (11/2$^+$) | $\Gamma_\gamma(1h_{9/2})\approx$190 eV. |
| S(p)+16466 | 5/2$^+$ | $\Gamma_\gamma(2f_{7/2})$=40 eV, $\Gamma_\gamma(3p_{3/2})$=95 eV. |
| S(p)+17398 | 7/2$^+$ | $\Gamma_\gamma(1h_{9/2})\approx$15 eV, $\Gamma_\gamma(2f_{7/2})$<10 eV. |

[†] Resonance energies (given in the lab coordinate system), are from $^{208}$Pb(p,p′)(pol p,p′) IAR (1985Me01).

[‡] From Adopted Levels.