

Table 8.18 from (2004TI06): Summary of recent direct measurements of ${}^7\text{Be}(p, \gamma){}^8\text{B}$ ^a

| Energy | $S(0)$ factor (eV · b) | Refs. |
|---|--|--------------------------------|
| $E_{\text{cm}} = 117\text{--}1230$ keV | 21.7 ± 2.5 | (1983FI13) |
| $E_{\text{p}} = 0.35\text{--}1.4$ MeV | 18.5 ± 1.0 ^b | (1997SC46, 1998HA05) |
| $E_{\text{cm}} = 1.09$ and 1.29 MeV | 20.3 ^c | (1999HA51) |
| $E_{\text{p}} = 0.32\text{--}2.61$ MeV | 18.4 ± 0.6 | (2001ST27) |
| $E_{\text{p}} = 111.7, 134.7$ and 185.8 keV | 18.8 ± 1.7 ^d | (2001HA26, 2001HA36) |
| $E_{\text{cm}} = 116\text{--}2460$ keV | $22.1 \pm 0.6(\text{expt.}) \pm 0.6(\text{theory})$ ^e | (2003JU04) |
| $E_{\text{cm}} = 992$ keV ^f | 16 ± 4 | (2000GL04) |
| | 15.3 ± 4.5 | (2001TE03) |
| $E_{\text{cm}} = 302\text{--}1078$ keV | 21.2 ± 0.7 ^g | (2003BA04, 2003BA51, 2003BA84) |

^a See (1983FI13, 1998AD12) for discussion of prior measurements.

^b Depending on the extrapolation theory, values of $S(0)$ ranging from 16.6 to 20.0 eV · b were deduced; $S(0) = 18.5 \pm 1.0$ eV · b was recommended.

^c Measured $S(1.09 \text{ MeV}) = 22.7 \pm 1.2$ eV · b and $S(1.29) = 23.8 \pm 1.5$ eV · b using a ${}^7\text{Be}$ target that was implanted on a Cu backing [to minimize backscattering losses]; these values are extrapolated to $S(0) = 20.3$ eV · b.

^d Weighted mean including data from (1998HA05), data below 0.43 MeV yield $S(0) = 19.2 \pm 1.2$ eV · b.

^e Based on $E_{\text{cm}} = 116\text{--}362$ keV. This value is revised from $S = 22.3 \pm 0.6(\text{expt.}) \pm 0.6(\text{theory})$ which was given in (2001JU01, 2002JU01).

^f Measurement with ${}^7\text{Be}$ particles on a windowless hydrogen target: $\sigma(992 \text{ keV}) = 0.41 \pm 0.11$ p-barns.

^g Cu substrate with implanted ${}^7\text{Be}$. The low-energy part of the data extrapolate to $S(0) = 20.8 \pm 1.3$ eV · b.