

Table 8.7 from (1959AJ76): Levels in ^8Be from $^7\text{Li} + \text{p}$

E_{res} (keV)	$^8\text{Be}^*$ (MeV)	Γ_{lab} (keV)	l_{p}	$J^\pi; T$	θ_{p}^2	$^7\text{Li}(\text{p}, \gamma)^8\text{Be}$		$^7\text{Li}(\text{p}, \text{n})^7\text{Be}$			$^7\text{Li}(\text{p}, \text{p}')^7\text{Li}^*$	References
						σ_{res} (mb)	$\omega\Gamma_\gamma$ (eV)	l_{n}	$\gamma_{\text{n}}^2/\gamma_{\text{p}}^2$	θ_{n}^2	$\Gamma_{\text{p}'}$ (keV)	
441.5	17.64	12.2	1	$1^+; 1$	0.064	6.0	9.4				0	(1949FO18, 1952HU1C)
1030	18.15	168	1	$1^+; (0)$		res.	2				≈ 6	(1949FO18, 1951BR10, 1954KR06, 1954MO04)
1900	18.94	> 500	0	2^-		non res.						(1957NE22, 1958MA07)
2100	19.1	400	2(1)	(3^-)		res.		0	4.5^{b}	> 0.3	res.	(1957NE22)
2250	19.22	220	1	$3^+; (1)$	0.04	(non res.)				small	small	(1957NE22)
(≈ 3000)	(19.9)	> 1000	(1)	(1^+)				1	5.5^{c}	[0.2]	small	(1957NE22) ^d
≈ 3000	19.9^{a}	≈ 1000	(1)	(2^+)						(res.)		(1957NE22, 1958MA07) ^d
5000	21.6	≈ 900								res. ^e		(1951BL1A, 1952BA1B, 1959GI47)

^a $^7\text{Li}(\text{p}, \alpha)^4\text{He}$.

^b 5.2 ± 0.3 (1958MA07); $\Gamma_{\text{n}} = \Gamma_{\text{p}}$ at $E_{\text{p}} = 1.93$ to 1.97 MeV.

^c 5.2 ; $\gamma_{\text{n}}^2 = 2.9 \times 10^{-13}$ MeV-cm (1958MA07), $\Gamma_{\text{n}} = \Gamma_{\text{p}}$.

^d See also (1955MA84).

^e (1959GI47) find $E_{\text{res}} \approx 5.0 \pm 0.5$ MeV, $\Gamma \approx 0.9$ MeV, $\sigma \approx 140$ mb, $J \geq 3$ (if single resonance).