

Table 12.12 from (1975AJ02): Resonances in $^{11}\text{B}(p, \gamma)^{12}\text{C}$ and $^{11}\text{B}(p, \alpha)^8\text{Be}$

Peak number	E_p (MeV)	$\Gamma_{c.m.}$ (keV)	$\sigma(\gamma_0)$ (μb)	$\sigma(\gamma_1)$ (μb)	$\sigma(\alpha_0)$ (mb)	$\sigma(\alpha_1)$ (mb)	Γ_{γ_0} (eV)	Γ_{γ_1} (eV)	Γ_{α_0} (keV)	Γ_{α_1} (keV)	Γ_p (keV)	$^{12}\text{C}^*$ (MeV)	$J^\pi; T$	Refs.
1	0.163 ^a	6.5 ^a	5.5	152	res.	res.	0.65	21.0 \pm 3.3 ^b	0.290 \pm 0.045	6.3 \pm 0.5	0.0217 \pm 0.0018	16.1067	2 ⁺ ; 1	(1953HU29, 1961SE10, 1974AN19)
2	0.675	300	non-res.	48 ^f	non-res.	600 ^f	< 0.4	8.0	< 0.27	150	150	16.58	2 ⁻ ; 1	(1953BE61, 1953HU29, 1965SE06)
3	1.388	1150	[27] ^c	3	3.3	\approx 180	44	5	10	140	1000	17.23	1 ⁻ ; 1	(1953HU29, 1963SY01, 1965SE06)
4	1.98	100	non-res.	non-res.	9.0	(25)	< 0.5	< 0.5	4.6	11.4	76	17.77	0 ⁺ ; 1	(1955HO48, 1963SY01, 1965SE06)
5	2.37	600 \pm 100		0.77 ^h								18.13	(1 ⁺ ; 0)	(1972SU08)
6	2.62	310	weak?	res.	32.4 \pm 4.8	270 \pm 40	< 1.5	3.2	65	177	68	18.36	(3 ⁻ ; 1)	(1955BA22, 1963SY01, 1965SE06, 1974GO21)
7	2.66	43	non-res.	non-res.	non-res.	non-res.	< 0.5	0.5	< 1	< 5	33	18.39	0 ⁻	(1965SE06)
8	3.01	100	non-res.	non-res.	3.4	non-res.	< 0.5	0.5	< 1	< 5	< 10	18.71	n. π . ^g ; (1)	(1965SE06)
9	3.12	100	weak	[20] ^c	non-res.	non-res.	(0.4)	2.0	< 0.2	< 1.5	97	18.82	2 ⁺ ; 1	(1955BA22, 1965SE06)
10	3.5	1100	[20] ^c	res.	5.2	res.	25	10	50	200	300	19.2	(1 ⁻ ; 1)	(1955BA22, 1965SE06)
11	3.75	(1100)	non-res.	res.	7.4 \pm 1.1	300 \pm 40	< 3	3	20	450	450	19.39	(2 ⁺ ; 0)	(1963SY01, 1965SE06)
12	4.93	180	non-res.	res.	non-res.	170 \pm 40						20.47		(1955BA22, 1963SY01, 1964AL20)
13	5.11	275	non-res.	[35] ^c	6.0 \pm 0.9	non-res.						20.64	(3 ⁻ ; 1)	(1955BA22, 1963SY01, 1964AL20)
14	6.0		res.	non-res.								21.5		(1964AL20)
15	6.7		res.	[35] ^c	res.							22.1		(1963BE18, 1964AL20)
16	7.2	3200	120	non-res.		(res.)	\geq 2500 ^e					22.6	(1 ⁻ ; 1)	(1961GO13, 1963BE18, 1964AL20)
17	8.3		res.	res.	res.							23.6		(1963BE18, 1964AL20)
18	10.3	\approx 6500	[60] ^c	83					k			25.4	i	(1961GO13, 1963BE18, 1964AL20, 1967FE04, 1972GL01)
19	11.76		non-res.	45 ^d	res.				k			26.73	(1 ⁻) ¹	(1963BE18, 1964AL20, 1967FE04)
20	12.55 ^j		21 ^d	non-res.								27.45		(1967FE04)
21	13.09		19 ^d	38 ^d								27.94		(1964AL20, 1967FE04)
22	[13.6] ^j		non-res.	25 ^d					k			28.4		(1967FE04)
23	14.19 ^j		16 ^d	non-res.					k			28.95		(1967FE04)
24	14.8	broad	res.						k			29.5		(1969KE02)

^a 163.1 \pm 0.2 keV, $\Gamma_{c.m.} = 6.5 \pm 0.6$ keV; see (1955AJ61) and see footnote 7 in (1961SE10).^b 97% of the value for Γ_γ reported by (1974AN19) [21.7 \pm 3.3 eV] to take into account the branching ratios.^c Estimated from graph (1964AL20).^d $4\pi \times \sigma(90^\circ)$.^e Assuming a single resonance (1961GO13).^f (1953HU29, 1953BE61).^g n. π . = natural parity.^h Resonance in yield of 15.1 MeV γ -rays; $(2J + 1)\Gamma_\gamma \geq 2.8 \pm 0.6$ eV (1972SU08).ⁱ See text (1972GL01).^j See also (1971SN1A).^k See (1972THIC).¹ See (1970KO27).