

Table 10.26 from (2004TI06): Resonances in ${}^9\text{Be}(p, d){}^8\text{Be}$ and ${}^9\text{Be}(p, \alpha){}^6\text{Li}$ ^a

E_p (MeV)	E_x (MeV)	Γ_{cm} (keV)	$J^\pi; T$	Decay channels	Γ_p/Γ
0.330	6.880	135	$1^-; 0 + 1$	d_0, α_0	0.27
0.375 ^b	6.924	110	$1^+; 0$	d_0, α_0	≈ 0.015
0.450 ^c	6.992	90	$3^+; 0$	d_0, α_0	≈ 0.017
0.650	7.171	430	$2^-; 0$	d_0, α_0	≈ 0.10
0.955	7.447	130	$1^-; 1 + 0$	d_0, α_0	0.38
0.992	7.480	80	$2^-; 0 + 1$	d_0, α_0	0.90
1.20	7.66	250	$1^+; 0$	$(d_1), \alpha_0$	0.30
1.30	7.76	245	$2^-; 0$	d_0, α_0	0.90
1.65–1.80	8.07–8.21	≈ 1000	$2^+; 0$	d_0, α_0, α_1	
2.30 ^d	8.66	≈ 300	$(2^-, 3^-)$		small
2.561 ^e	8.89	100 ± 20	$3^-; 1$	α_2	0.06–0.3
2.566 ^e	8.89	40 ± 1	$2^+; 1$	α_2	
4.5 ^{f,g}	10.6	200 ^g		α_0 ^g , α_2 ^f	
4.7 ^g	10.8	300	$2^+; 1$	$p_2, \alpha_2, (\alpha_1)$	
5.5 ^g	11.5	500		α_1, α_2	

^a For references and for a listing of other reported resonances and additional information see [Table 10.14 in \(1979AJ01\)](#). The information up to $E_p = 2.3$ MeV is taken from a multi-level R-matrix analysis of the p, d_0 , α_0 , α_1 , and γ channels by [\(1969CO1J\)](#). See also [\(1964HO02, 1969MO29\)](#).

^b Level appears only in the analysis of [\(1969CO1J\)](#).

^c Other analyses have given 1^+ , 2^+ , or 3^+ [\(1979AJ01\)](#). See also [\(2001BA47\)](#).

^d See also [\(1956WE37\)](#) for (p, d) and [\(1965MO27\)](#) for (p, α).

^e From an R-matrix analysis of the $(\alpha_2\gamma)$ and p_0 yields [\(1977KI04\)](#).

^f [\(1969MO29\)](#).

^g [\(1974YA1C\)](#).