

Table 12.35 from (2017KE05): Recent work on  $^{12}\text{C}(\alpha, \alpha)$  angular distributions

$E_\alpha$ (MeV)	$^{12}\text{C}$ States	References
2.5-56	g.s., 4.4, 7.65, 9.6, 11.8, 12.7, 14.1	See references in (1968AJ02)
12.5-166	g.s., 4.4, 7.65, 9.6 10.7, 11.8, (12.87), 14.1, 15.7, 18.36, 19.36, 21.8, 22.67, 24.24	See references in (1975AJ02) (1972FA07)
3.0-1370	g.s., 4.4, 7.65, 9.6, 14.1, 15.5, 26.2, 27	See references in (1980AJ01)
5-172	g.s., 4.4, 7.65, 9.6, 14.1	See references in (1985AJ01)
1.4-172	g.s., 4.4, 7.7, 9.6, 10.8, 11.8, 14.0, 15.3, 18.4, 21.6, 24.0, 26.2, 29.2	See references in (1990AJ01)
0.4-1.8	g.s.	(1990TO09)
2.6-8.2	g.s.	(2001BU20, 2002TI03, 2009TI02)
2.6-8.2	g.s., 4.4	(2012DE08)
3.8-4.6	g.s.	(1996SO20)
4.1-4.4	g.s.	(2004JI10)
4.265	g.s.	(1995EN09)
5.5-5.8	g.s.	(1994DA16)
5.5-8	g.s.	(1994YO06)
5.7	g.s.	(1998BE56)
12-20	7.65, 9.64	(2013CU04)
14-21	7.65, 9.64	(2012SO20)
22-30	7.65, 9.64, 10.84, 11.83, 13.3, 14.08, 17	(2011FR02)
25	4.4	(1994IG01)
25.5-35.2	g.s., 4.4	(2002AR16)
27.2	g.s., 4.44, 7.65, 9.64	(1991KO40)
28	g.s.	(1990AR24)
40	7.65, 9.64, 10.84, 14.08, $22.4 \pm 0.2$ ( $J^\pi = 5^-$ )	(2014MA37)
50.5	g.s.	(1999BO58)
60	7.65, 9.64	(2013RA20)
72-90	g.s., 4.44	(1994DA32)
89.1	g.s.	(1997GO10)
90	g.s.	(1992DE47)
90, 139	g.s.	(1991GO25)
240	g.s., 4.44, 7.65, 9.641, 10.3, 10.84, (11.46) (E0 strength at $21.5 \pm 0.4$ MeV)	(2003JO07, 1998YO02)
386	4.44, 7.65, 9.64, $(9.75 \pm 0.15)$ , $9.93 \pm 0.03$ [ $J^\pi = 0^+$ ], 10.3, 10.84, 11.83	(2004IT09, 2011IT08, 2012FR05)
4.2 GeV	g.s. ( $\langle r_m^2 \rangle = 5.4 \pm 0.2$ fm <sup>2</sup> )	(1994MO30)