

Table 18.17 from (1972AJ02): Maxima in the yield of $^{16}\text{O} + d$ reactions

E_d	Particles out	$\Gamma_{c.m.}$	$J^\pi; T$	E_x	Refs.
0.895 ^a	p_1, α_0	210 ± 25		(8.322)	(1963AM1A, 1964AM1A)
1.048 ^b	p_1, d_0, α_0	88 ± 10	1^+	8.458	(1960AM03, 1963AM1A, 1964AM1A, 1968MA53)
1.199	α_0	230 ± 30		(8.592)	(1963AM1A, 1964AM1A, 1965MA59)
1.298	p_1, d_0, α_0	13 ± 3		(8.680)	(1960AM03, 1963AM1A, 1964AM1A)
1.325	d_0, α_0			(8.704)	(1963AM1A, 1964AM1A)
1.482	α_0	40 ± 5		(8.843)	(1963AM1A, 1964AM1A)
1.563	d_0, α_0	121 ± 15		(8.915)	(1960AM03, 1963AM1A, 1964AM1A)
1.616 ^c	α_0	19 ± 15		(8.962)	(1960AM03, 1963AM1A, 1964AM1A)
1.765 ^d	d_0, α_0	141 ± 10		(9.095)	(1960AM03, 1963AM1A, 1964AM1A)
1.885 ^{d,e}	p_0, p_1, d_0, α_0	108 ± 12	$3, 4^-; 0$	9.201	(1956RO1A, 1963AM1A, 1964AM1A, 1965MA59, 1970JO1C)
1.95 ^f	α_1	≈ 30	3^-	9.26	(1970JO1C)
2.02 ^f	$(p_1), \alpha_1$	≈ 40	2^+	9.32	(1956RO1A, 1970JO1C)
2.22	n_0, α_0		$2, 3^+; 0$	9.50	(1955MA85, 1961DI06, 1970JO1C)
2.28	α_0		$2, 3^+; 0$	9.55	(1970JO1C)
2.34	n_0, p_1			(9.61)	(1955MA85, 1956RO1A, 1961DI06)
2.448 ^f	n, α_1	372	3^-	9.701	(1955MA85, 1970JO1C)
2.55	p_1			(9.79)	(1955ST1A, 1956RO1A)
2.620 ^f	α_1	195	2^+	9.854	(1970JO1C)
2.92	n, p_0, p_1			10.12	(1955MA85, 1955ST1A, 1956RO1A)
3.021 ^f	α_1	93	1^-	10.210	(1970JO1C)
3.05	α_0		$3, 4^-$	10.24	(1970JO1C)
3.126 ^f	$n, p_1, \alpha_0, \alpha_1$	179	3^-	10.303	(1955MA85, 1956RO1A, 1970JO1C)
3.138 ^f	α_1	572	2^+	10.314	(1970JO1C)
3.179 ^f	$(n), \alpha_1$	269	1^-	10.350	(1955MA85, 1970JO1C)
3.254 ^f	$(n), \alpha_1$	48	3^-	10.417	(1955MA85, 1969JO09, 1970JO1C)
3.366 ^f	n, p_0, p_1, α_1	46	2^+	10.516	(1955MA85, 1955ST1A, 1956RO1A, 1969JO09, 1970JO1C)
3.454 ^f	α_1	157	1^-	10.594	(1970JO1C)
3.47	α_0		$4, 5^+; 0$	10.61	(1970JO1C)
3.471 ^{f,g}	α_1	151	2^+	10.610	(1969JO09, 1970JO1C)
3.492 ^f	α_1	58	1^-	10.628	(1970JO1C)
3.508 ^f	α_1	236	3^-	10.642	(1970JO1C)
3.547 ^{f,g}	α_1	62	2^+	10.677	(1970JO1C)
3.562 ^f	α_1	75	3^-	10.690	(1970JO1C)
3.578 ^{f,g}	α_1	375	2^+	10.705	(1970JO1C)
3.684 ^{f,g}	n, p_0, p_1, α_1	85	2^+	10.799	(1955MA85, 1955ST1A, 1956RO1A,

Table 18.17 from (1972AJ02): Maxima in the yield of $^{16}\text{O} + \text{d}$ reactions (continued)

E_d	Particles out	$\Gamma_{\text{c.m.}}$	$J^\pi; T$	E_x	Res.
					1968MA1C, 1969JO09, 1969JO1C, 1970JO1C)
3.80	p_0, α_0		$(2, 3)^+; 0$	10.90	(1956RO1A, 1957BA14, 1970JO1C)
3.809 ^f	α_1	241	1^-	10.910	(1970JO1C)
3.849 ^{f,g}	α_1	402	2^+	10.945	(1969JO09, 1969JO1C, 1970JO1C)
3.892 ^f	α_1	119	3^-	10.983	(1970JO1C)
3.904 ^{f,g}	α_1	222	2^+	10.994	(1970JO1C)
3.944 ^{f,g}	n, p_1, α_1	78	2^+	11.030	(1955MA85, 1956RO1A, 1970JO1C)
3.95	p_1, α_0	≈ 35	$3, 4^-; 0$	11.03	(1956RO1A, 1957BA14, 1970JO1C)
3.989 ^{f,g}	α_1	51	2^+	11.070	(1969JO09, 1969JO1C, 1970JO1C)
4.031 ^{f,h}	α_1	1009	1^-	11.107	(1970JO1C)
4.069 ^f	n, p_1, α_1	35	3^-	11.141	(1955MA85, 1956RO1A, 1969JO09, 1969JO1C, 1970JO1C)
4.208 ^f	α_1	238	3^-	11.264	(1969JO09, 1969JO1C, 1970JO1C)
4.253 ^f	α_1	475	2^+	11.304	(1970JO1C)
4.264 ^f	α_1	38	4^+	11.314	(1970JO1C)
4.267 ^f	α_1	94	2^+	11.316	(1970JO1C)
4.276 ^f	α_1	65	3^-	11.324	(1970JO1C)
4.38	p_1, α_0		$4, 5^+; 0$	11.42	(1956RO1A, 1970JO1C)
4.480 ^f	α_1	126	2^+	11.505	(1970JO1C)
4.543 ^f	α_1	67	3^-	11.561	(1970JO1C)
4.57	α_0		$5, 6^-; 0$	11.59	(1970JO1C)
4.655 ^f	α_1	240	2^+	11.661	(1970JO1C)
4.80	d_0, α_0		$\geq 3; 0$	11.79	(1956BE1B, 1970JO1C)
4.847 ^f	α_1	179	1^-	11.831	(1970JO1C)
4.93	α_0		$5, 6^-; 0$	11.91	(1970JO1C)
4.993 ^f	α_1	32	3^-	11.961	(1969JO09, 1969JO1C, 1970JO1C)
5.000 ^f	α_1	124	2^+	11.967	(1970JO1C)
5.05 \pm 15	α_4	40		12.01	(1968JO07)
5.10	$\alpha_0, \alpha_2, \alpha_4$	60	$T = 0$	12.06	(1968JO07, 1970JO1C)
5.17	α_0	55	$T = 0$	12.12	(1968JO07, 1970JO1C)
5.175 ^f	α_1	36	3^-	12.123	(1970JO1C)
5.190 ^f	α_1	219	2^+	12.136	(1970JO1C)
5.32	α_0	70		12.25	(1968JO07)
5.34	α_0, α_2	170		12.27	(1968JO07)
5.40	α_0, α_4	130		12.32	(1968JO07)
5.390 ^f	α_1	100	1^-	12.314	(1970JO1C)
5.414 ^f	α_1	187	3^-	12.335	(1970JO1C)

Table 18.17 from (1972AJ02): Maxima in the yield of $^{16}\text{O}+d$ reactions (continued)

E_d	Particles out	$\Gamma_{\text{c.m.}}$	$J^\pi; T$	E_x	Res.
5.441 ^f	α_1, α_4	80	2^+	12.359	(1968JO07, 1970JO1C)
5.462 ^f	$\alpha_1, \alpha_2, \alpha_3, \alpha_4$	120	2^+	12.377	(1968JO07, 1970JO1C)
5.58	$\alpha_0, \alpha_1, \alpha_2$	120	(3^-)	12.48	(1968JO07, 1969JO09, 1969JO1C, 1970JO1C)
5.571 ^f	α_1	35	1^-	12.474	(1970JO1C)
5.606 ^f	$(\alpha_0), \alpha_1, (\alpha_2)$	88	3^-	12.505	(1968JO07, 1969JO09, 1969JO1C, 1970JO1C)
5.617 ^f	$(\alpha_0), \alpha_1, (\alpha_2)$	47	4^+	12.515	(1968JO07, 1969JO09, 1969JO1C, 1970JO1C)
5.742 ^f	α_0, α_1	210	2^+	12.626	(1968JO07, 1969JO1C, 1970JO1C)
5.786 ^f	α_1	288	2^+	12.665	(1970JO1C)
5.80	$\alpha_0, \alpha_2, \alpha_4$	160		12.68	(1968JO07)
5.804 ^f	$\alpha_1, \alpha_3, \alpha_4$	36	5^-	12.681	(1968JO07, 1969JO09, 1969JO1C, 1970JO1C)
5.867 ^f	α_1	63	3^-	12.737	(1969JO1C, 1970JO1C)
5.91	α_2	160		12.78	(1968JO07)
5.954 ^f	α_1	441	2^+	12.814	(1970JO1C)
6.00	α_0	120		12.86	(1968JO07)
6.048 ^f	α_1	120	3^-	12.898	(1970JO1C)
6.11	$\alpha_0, \alpha_1, \alpha_4$	120		12.96	(1968JO07)
6.14 ⁱ	α_1	100		(12.98)	(1968JO07)
6.151 ^f	α_1	648	2^+	12.989	(1970JO1C)
6.198 ^f	$\alpha_1, \alpha_2, \alpha_3$	250	3^-	13.031	(1968JO07, 1970JO1C)
6.25	α_0, α_4	150	$T = 0$	13.08	(1968JO07, 1970JO1C)
6.25	α_1	≈ 10	$4^+ i$	13.08	(1956BR36, 1968JO07, 1969JO09)
6.30	α_0, α_2	160		13.12	(1968JO07)
6.31	α_1	35		13.13	(1968JO07)
6.34	α_0, α_3	160		13.16	(1968JO07)
6.353 ^f	α_1	184	1^-	13.169	(1970JO1C)
6.369 ^f	α_1	137	5^-	13.183	(1968JO07, 1970JO1C)
6.38	α_0, α_3	145	$T = 0$	13.20	(1968JO07, 1970JO1C)
6.393 ^f	α_1	254	4^+	13.204	(1970JO1C)
6.43	d_0, α_2	120		13.24	(1956BE1B, 1968JO07)
6.46	$\alpha_0, \alpha_1, \alpha_4$	100		13.26	(1968JO07)
6.461 ^f	α_1	359	4^+	13.264	(1970JO1C)
6.487 ^f	α_1	99	2^+	13.288	(1968JO07, 1970JO1C)
6.54	α_0, α_2	135		13.34	(1968JO07)
6.563 ^f	α_1	42	5^-	13.355	(1970JO1C)

Table 18.17 from (1972AJ02): Maxima in the yield of $^{16}\text{O}+d$ reactions (continued)

E_d	Particles out	$\Gamma_{\text{c.m.}}$	$J^\pi; T$	E_x	Res.
6.61	$(\alpha_1), \alpha_2, \alpha_3, \alpha_4$	120		13.40	(1956BR36, 1968JO07)
6.64	α_0, α_2	200		13.43	(1968JO07)
6.650 ^f	α_1	233	3^-	13.432	(1970JO1C)
6.662 ^f	α_0, α_1	100	1^-	13.443	(1968JO07, 1970JO1C)
6.72	α_2	100		13.49	(1968JO07)
6.724 ^f	α_1	65	5^-	13.498	(1968JO07, 1970JO1C)
6.726 ^f	α_1, α_2	146	2^+	13.500	(1968JO07, 1970JO1C)
6.80	$\alpha_1, \alpha_2, \alpha_3$	140		13.57	(1968JO07)
6.84	$\alpha_0, \alpha_2, \alpha_4$	150		13.60	(1968JO07)
6.839 ^f	α_1	41	4^+	13.600	(1970JO1C)
6.847 ^f	α_1	88	1^-	13.607	(1970JO1C)
6.894 ^f	α_1	297	5^-	13.649	(1970JO1C)
6.936 ^f	$\alpha_0, \alpha_1, \alpha_3$	60	4^+	13.686	(1968JO07, 1969JO09, 1970JO1C)
6.954 ^f	α_1	78	2^+	13.702	(1970JO1C)
7.025 ^f	α_1	206	3^-	13.765	(1969JO09, 1970JO1C)
7.067 ^f	α_1	132	4^+	13.802	(1970JO1C)
7.074 ^f	α_1	263	2^+	13.809	(1968JO07, 1970JO1C)
7.12	α_3, α_4	60		13.85	(1968JO07)
7.19	α_1	210		13.92	(1968JO07)
7.244 ^f	α_1	69	1^-	13.960	(1970JO1C)
7.27	α_1, α_3	150		13.99	(1968JO07)
7.286 ^f	α_1	168	5^-	13.997	(1970JO1C)
7.30	α_2	110		14.01	(1968JO07)
7.34	$\alpha_0, \alpha_1, \alpha_3, \alpha_4$	200		14.05	(1968JO07)
7.38	$\alpha_0, \alpha_1, \alpha_3$	210		14.08	(1968JO07)
7.400 ^f	α_1, α_3	170	2^+	14.098	(1968JO07, 1970JO1C)
7.406 ^f	α_1	73	4^+	14.103	(1970JO1C)
7.410 ^f	α_1	200	5^-	14.107	(1969JO09, 1970JO1C)
7.49	α_0	220		14.18	(1968JO07)
7.58	α_0	200		14.26	(1968JO07)
7.62	α_4	85		14.30	(1968JO07)
7.66	$\alpha_0, \alpha_2, \alpha_4$	130	$T = 0$	14.33	(1968JO07, 1970JO1C)
7.67	$\alpha_0, \alpha_2, \alpha_3, \alpha_4$	250	$T = 0$	14.34	(1968JO07, 1970JO1C)
7.73	α_1	145		14.39	(1968JO07)
7.74	α_3	235		14.40	(1968JO07)
7.80	α_0, α_4	70		14.46	(1968JO07)
7.82	α_0, α_2	225		14.48	(1968JO07)
7.832 ^f	α_1	203	1^-	14.482	(1968JO07, 1970JO1C)

Table 18.17 from (1972AJ02): Maxima in the yield of $^{16}\text{O}+d$ reactions (continued)

E_d	Particles out	$\Gamma_{\text{c.m.}}$	$J^\pi; T$	E_x	Res.
7.839 ^f	α_1	76	4^+	14.488	(1969JO09, 1970JO1C)
7.99	α_4	200		14.63	(1968JO07)
8.02	α_0	150		14.65	(1968JO07)
8.03	α_3	310		14.66	(1968JO07)
8.07	α_0, α_1	120		14.70	(1968JO07)
8.08	α_3, α_4	310		14.70	(1968JO07)
8.082 ^f	α_1	169		14.704	(1968JO07, 1970JO1C)
8.14	α_1	90		14.77	(1968JO07)
8.21	α_2	250		14.82	(1968JO07)
8.216 ^f	α_1	91	6^+	14.823	(1970JO1C)
8.228 ^f	α_1	124	2^+	14.833	(1970JO1C)
8.25	α_4	380		14.86	(1968JO07)
8.30	$\alpha_0, \alpha_2, \alpha_3$	210		14.90	(1968JO07)
8.308 ^f	α_1	304	4^+	14.904	(1970JO1C)
8.310 ^f	α_1	1201	2^+	14.906	(1970JO1C)
8.34	α_4	115		14.93	(1968JO07)
8.340 ^f	α_1	119	5^-	14.933	(1970JO1C)
8.37	α_0, α_1	130		14.96	(1968JO07)
8.37	α_0, α_3	250		14.96	(1968JO07)
8.385 ^f	α_1	491	5^-	14.973	(1970JO1C)
8.40	α_0	310		14.99	(1968JO07)
8.43	α_1, α_4	120		15.02	(1968JO07)
8.50	α_3, α_4	190		15.08	(1968JO07)
8.52	α_2	150		15.10	(1968JO07)
8.530 ^f	α_1	115	3^-	15.101	(1968JO07, 1970JO1C)
8.56	α_2	220		15.13	(1968JO07)
8.570 ^f	α_1	156	4^+	15.137	(1970JO1C)
8.58	α_4	180		15.15	(1968JO07)
8.61	α_0, α_3	200		15.17	(1968JO07)
8.616 ^f	α_1	299	3^-	15.178	(1970JO1C)
8.65	α_0, α_2	135		15.21	(1968JO07)
8.72	α_2, α_4	120		15.28	(1968JO07)
8.76	α_2	160		15.31	(1968JO07)
8.766 ^f	α_1	100	6^+	15.311	(1970JO1C)
8.79	α_0	200		15.34	(1968JO07)
8.82	$\alpha_0, \alpha_3, \alpha_4$	230		15.36	(1968JO07)
8.865 ^f	α_1	157	1^-	15.399	(1970JO1C)
8.89	α_3	110		15.43	(1968JO07)

Table 18.17 from (1972AJ02): Maxima in the yield of $^{16}\text{O} + \text{d}$ reactions (continued)

E_d	Particles out	$\Gamma_{\text{c.m.}}$	$J^\pi; T$	E_x	Res.
8.906 ^f	α_1	123	3^-	15.435	(1969JO09, 1970JO1C)
8.93	α_3, α_4	190		15.46	(1968JO07)
8.97	α_2, α_4	210		15.50	(1968JO07)
9.00	$\alpha_0, \alpha_1, \alpha_2$	190		15.52	(1968JO07)
9.032 ^f	α_1	319	4^+	15.547	(1970JO1C)
9.073 ^f	α_1	174	5^-	15.583	(1970JO1C)
9.200 ^f	α_1	174	6^+	15.696	(1970JO1C)
9.223 ^f	α_1	237	4^+	15.717	(1970JO1C)
9.255 ^f	α_1	249	1^-	15.745	(1970JO1C)
9.329 ^f	α_1	1044	5^-	15.811	(1970JO1C)
9.349 ^f	α_1	20	2^+	15.828	(1970JO1C)
9.403 ^f	α_1	272	3^-	15.876	(1970JO1C)
9.476 ^f	α_1	153	4^+	15.941	(1970JO1C)
9.643 ^f	α_1	103	2^+	16.089	(1970JO1C)
9.692 ^f	α_1	355	1^-	16.133	(1970JO1C)
9.748 ^f	α_1	149	4^+	16.183	(1970JO1C)
9.771 ^f	α_1	77	3^-	16.203	(1970JO1C)
9.781 ^f	α_1	181	1^-	16.212	(1970JO1C)
9.909 ^f	α_1	292	2^+	16.325	(1970JO1C)
10.049 ^f	α_1	52	4^+	16.450	(1969JO09, 1970JO1C)
10.333 ^f	α_1	296	3^-	16.703	(1970JO1C)
10.357 ^f	α_1	212	5^-	16.723	(1970JO1C)
10.406 ^f	α_1	135	4^+	16.767	(1970JO1C)
10.431 ^f	α_1	209	5^-	16.789	(1970JO1C)
10.457 ^f	α_1	86	6^+	16.812	(1970JO1C)
10.494 ^f	α_1	47	2^+	16.845	(1970JO1C)
10.499 ^f	α_1	78	1^-	16.849	(1970JO1C)
10.533 ^f	α_1	251	3^-	16.879	(1970JO1C)
10.728 ^f	α_1	180	5^-	17.052	(1970JO1C)
10.777 ^f	α_1	86	4^+	17.096	(1970JO1C)
10.888 ^f	α_1	88	6^+	17.195	(1970JO1C)
10.911 ^f	α_1	112	3^-	17.215	(1970JO1C)
11.332 ^f	α_1	208	4^+	17.580	(1970JO1C)
11.367 ^f	α_1	313	1^-	17.620	(1970JO1C)
11.567 ^f	α_1	78	2^+	17.797	(1970JO1C)
11.592 ^f	α_1	273	3^-	17.819	(1970JO1C)
11.704 ^f	α_1	155	6^+	17.919	(1970JO1C)
11.799 ^f	α_1	203	1^-	18.003	(1970JO1C)

Table 18.17 from (1972AJ02): Maxima in the yield of $^{16}\text{O} + d$ reactions (continued)

E_d	Particles out	$\Gamma_{\text{c.m.}}$	$J^\pi; T$	E_x	Res.
11.869 ^f	α_1	223	7 ⁻	18.065	(1970JO1C)
12.135 ^f	α_1	554	5 ⁻	18.301	(1970JO1C)
12.495 ^f	α_1	395	7 ⁻	18.621	(1970JO1C)
12.556 ^f	α_1	208	5 ⁻	18.675	(1970JO1C)
12.682 ^{f,h}	α_1	1072	1 ⁻	18.787	(1970JO1C)
12.951 ^{f,h}	α_1	1894	2 ⁺	19.026	(1970JO1C)
12.990 ^f	α_1	416	4 ⁺	19.060	(1970JO1C)
13.080 ^f	α_1	477	7 ⁻	19.140	(1970JO1C)
13.307 ^f	α_1	911	6 ⁺	19.342	(1970JO1C)
13.366 ^f	α_1	483	2 ⁺	19.394	(1970JO1C)
14.35 ± 100	α_1	≈ 300		20.27	(1971JA04)
14.95 ± 100	α_1	≈ 550		20.80	(1971JA04)

^a Maxima at lower energies are reported by (1965LO03, 1968NG1B).

^b See also (1962CA20, 1965LO03, 1968NG1B, 1969DU11).

^c See also (1959LO59).

^d See also (1968MA53).

^e For this and the following levels, see also (1959AJ76).

^f Isospin mixed state: See (1970JO1C). Resonances in italics are definitely real: their influence on the S -matrix elements is certain and the ambiguities in the S -matrix elements do not allow the effect to be redistributed into other partial waves; and the interference effects are relatively small. All widths for states identified by the footnote ^f are uncertain to $\geq 10\%$ and the resonance energies are uncertain to $\geq 10\%$ of the widths (P. L. Jolivet, private communication).

^g These are the main components of the 2⁺ strength from $3.4 < E_d < 4$ MeV. The resonances are not well defined and the shape can probably be built up from a different set of levels (1970JO1C).

^h Possibly should be broken up into several more levels but data are insufficient (1970JO1C).

ⁱ P.L. Jolivet, private communication.