^{19}F(^{6}Li,d) 1995Fo03

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	M. S. Basunia[#], A. Chakraborty[##]	NDS 171,1 (2021)	1-Jun-2020

Others references: 1978Fo17 (E=16.0 MeV), 1979Es07 (E=36.0 MeV), 1987Le18 (E=34.0 MeV).
$J^{\pi}(^{19}F)=1/2^{+}$.
1995Fo03: E=16.0 MeV; Measured deuteron spectrum at seven angles from 7.5° to 52.5° in step of 7.5°, angular distribution; deduce level cross section, L value. DWBA calculations. FWHM 25 keV.

All data from 1995Fo03.

^{23}Na Levels

E(level)	L[#]	$(2J+1)S_{rel}$[@]	Comments
6310 *10*	0	1.9	σ_{max}=9.7 μb/sr. L: and 0+(5) in E=34 MeV. $(2J+1)S_{rel}$: 2.6 in E=34 MeV.
6340 *10*	(5), n.s.	≤(13)	σ_{max}=37 μb/sr. $(2J+1)S_{rel}$: 12 in E=34 MeV.
6600[†] *10*	(4), n.s.	≤(5.6)	σ_{max}=14 μb/sr (for doublet). $(2J+1)S_{rel}$: 2.0 in E=34 MeV.
6730 *10*	2	1.9	σ_{max}=15 μb/sr. $(2J+1)S_{rel}$: 3.0 in E=34 MeV.
6820 *10*	3		σ_{max}=8 μb/sr. L: or 3(+2).
6920 *10*	1	8.6	L: or 1+2 in E=16 MeV; L=(1)+2 in E=34 MeV. σ_{max}=103 μb/sr. $(2J+1)S_{rel}$: 5.8+4.0 in E=16 MeV; (4.0)+12.6 in E=34 MeV.
7080 *10*	1	3.9	σ_{max}=44 μb/sr. L: or 1+2 in E=16 MeV and 2 in E=34 MeV. $(2J+1)S_{rel}$: 2.8+1.9 for E=16 MeV; 9.0 for E=34 MeV.
7130 *10*	2(+4,5)	2.7	σ_{max}=22 μb/sr.
7180 *10*			σ_{max}=5.5 μb/sr.
7270 *10*	3	2.7	σ_{max}=17 μb/sr.
7390 *10*	4, n.s.	8.4	σ_{max}=25 μb/sr.
7480[†] *10*	1+2		σ_{max}=123 μb/sr. L: and 2(+1) in 34 MeV. $(2J+1)S_{rel}$: 6.5+5.1 in E=16 MeV; 39 in 34 MeV.
7560 *10*	2	2.0	σ_{max}=16 μb/sr.
7680 *10*			σ_{max}=20 μb/sr.
7730[†] *10*	0(+3,4)	(1.8)	σ_{max}=25 μb/sr.
7840 *10*	(5), n.s.	≤(6.9)	σ_{max}=19 μb/sr.
7890 *10*	1, n.s.	1.5	σ_{max}=21 μb/sr.
7980[†] *10*	(2+5)		σ_{max}=11 μb/sr. L: or n.s. $(2J+1)S_{rel}$: (1.4+4.4) in E=16 MeV.
8360 *10*	2(+5,6)	2.0	σ_{max}=17 μb/sr.
8470[†] *10*	4	(25)	σ_{max}=83 μb/sr. L: and 3 in E=34 MeV. $(2J+1)S_{rel}$: 17.6 in E=34 MeV.
8650 *10*	4, n.s.	(13)	σ_{max}=65 μb/sr. L: and 2 in E=34 MeV. $(2J+1)S_{rel}$: 10.8 in E=34 MeV.
8820 *10*	5	5.5	σ_{max}=13 μb/sr.

Continued on next page (footnotes at end of table)

^{19}F(^{6}Li,d) 1995Fo03 (continued)

^{23}Na Levels (continued)

E(level)	L[#]	(2J+1)S_{rel}[@]	Comments
8940 *10*	4, n.s.	(5.6)	σ_{max}=27 μb/sr. L: and 3 in E=34 MeV. (2J+1)S_{rel}: 4.0 in E=34 MeV.
9110 *10*	2(+6)		σ_{max}=28 μb/sr. (2J+1)S_{rel}: 3.0(+28) in E=16 MeV.
9210 *10*	(4)	(7.3)	σ_{max}=40 μb/sr. L: and 1 in E=34 MeV. (2J+1)S_{rel}: 4.4 in E=34 MeV.
9430 *10*	2(+5)		σ_{max}=59 μb/sr. L: and L=2(+large) in E=34 MeV. (2J+1)S_{rel}: 6.2(+15) in E=16 MeV; (12) in E=34 MeV.
9700 *10*	3,(4)	3.1	σ_{max}=33 μb/sr. L: and 2 in E=34 MeV. (2J+1)S_{rel}: (or 6.2) in E=16 MeV; 6.0 in E=34.0 MeV.
9810 *10*	2	4.8	E(level),L,(2J+1)S_{rel}: In E=34 MeV.
10030 *10*	3,4, n.s.	3.8,7.3	σ_{max}=43 μb/sr. E(level): Possible doublet. L: and 5 in E=34 MeV. (2J+1)S_{rel}: 18 in E=34.0 MeV.
10260 *10*	6+2,3,4	(31)	σ_{max}=41 μb/sr. L: or n.s.
10470 *10*	2(+4)	4.8(+9.4)	σ_{max}=126 μb/sr. (2J+1)S_{rel}: 4.8(+9.4).
10990[‡] *10*	3,4	5.2,9.8	σ_{max}=39 μb/sr. L: and L=4 in E=34 MeV. (2J+1)S_{rel}: 17.
11290 *10*	4, n.s.	(20)	σ_{max}=78 μb/sr.
11520 *10*	(0)	(15)	σ_{max}=86 μb/sr.
11600 *10*	(4)	(15)	σ_{max}=58 μb/sr.
12230 *10*	2,(3)	28,18	σ_{max}=110 μb/sr.
12920 *10*	2,3, n.s.	16,10	σ_{max}=66 μb/sr.
13110 *10*	(4), n.s.	(20)	σ_{max}=68 μb/sr.
13250 *10*	3	27	σ_{max}=156 μb/sr.

† Doublet.
‡ Overlaps three excited level energies in Adopted Levels − not cross-referenced (XREF) in Adopted Levels.
# From Table I. Non-stripping listed as 'n.s.'.
@ Relative values for E=16.0 MeV, normalized to S_{rel}=1 (g.s.), are listed in column. Relative values for 34.0 MeV, normalized to S_{rel}=1 (4780 keV level), are listed in comments section. For a few levels, two values are listed with a '+' sign, presumably for two different J values and follows the listing of L values, not described in the text. These are also listed in the comments section.