^{16}O(e,e′) 1993Ti07

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	J. H. Kelley, D. R. Tilley, H. R. Weller and C. M. Cheves	NP 564 1 (1993)	31-Dec-1992

For additional comments see 1993Ti07.

^{16}O Levels

E(level)	J^{π}	$T_{1/2}$	Comments
6.05×10^3	0^+		Monopole matrix element=3.55 fm^2 *21*. Multipolarity=E0.
6.13×10^3	3^-		$\Gamma_{\gamma0}=2.60\times10^{-5}$ eV *13* Multipolarity=E3.
6.92×10^3	2^+		$\Gamma_{\gamma0}=0.105$ eV *7* Multipolarity=E2.
7.12×10^3	1^-		$\Gamma_{\gamma0}=4.6\times10^{-2}$ eV *23* Multipolarity=E1.
8.87×10^3	2^-		Multipolarity=M2.
9.84×10^3	2^+		$\Gamma_{\gamma0}=8.8\times10^{-3}$ eV *17* Multipolarity=E2.
10.36×10^3	4^+		$\Gamma_{\gamma0}=5.6\times10^{-8}$ eV *20* Multipolarity=E4.
11.52×10^3	2^+		$\Gamma_{\gamma0}=0.61$ eV *2* Multipolarity=E2.
12.05×10^3	0^+		Monopole matrix element=4.03 fm^2 *9*. Multipolarity=E0.
12.44×10^3	1^-		Multipolarity=E1.
12.53×10^3	2^-		$\Gamma_{\gamma0}=0.0210$ eV *6* Multipolarity=M2.
12.97×10^3	2^-		$\Gamma_{\gamma0}=0.071$ eV *2* Multipolarity=M2.
13.02×10^3	2^+		$\Gamma_{\gamma0}=0.89$ eV Multipolarity=E2.
13.10×10^3 *25*	1^-		$\Gamma_{\gamma0}\leq62$; T=1 Multipolarity=E1.
13.26×10^3	3^-		Multipolarity=E3.
13.87×10^3	4^+		Multipolarity=E4.
14.00×10^3 *5*	0^+	170 keV *50*	Monopole matrix element=3.3 fm^2 *7*. Multipolarity=E0.
$\approx14.7\times10^3$		≈600 keV	
14.93×10^3	2^+		Multipolarity=E2.
15.15×10^3 *15*	2^+	0.50 MeV *20*	$\Gamma_{\gamma0}=1.0$ eV *5* Multipolarity=E2.
15.20×10^3	2^-		Multipolarity=M2.
15.41×10^3	3^-		Multipolarity=E3.
$\approx15.85\times10^3$		≈600 keV	
16.22×10^3 *1*	1^+	18 keV *3*	$\Gamma_{\gamma0}=3.2$ eV *3*; T=1 Multipolarity=M1.
16.45×10^3 *1*	2^+	32 keV *4*	$\Gamma_{\gamma0}=0.18$ eV *1* Multipolarity=E2.
16.82×10^3 *1*	2^-	30 keV *5*	$\Gamma_{\gamma0}=0.05$ eV *1* Multipolarity=M2.
17.14×10^3 *1*	1^+	≤25 keV	$\Gamma_{\gamma0}=6.1$ eV *5*; T=1 Multipolarity=M1.
17.30×10^3 *1*	1^-	70 keV *10*	$\Gamma_{\gamma0}=3.4$ eV *23*

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^{16}O(e,e′) 1993Ti07 (continued)

^{16}O Levels (continued)

E(level)	J^{π}	$T_{1/2}$	Comments
			Multipolarity=E1.
17774. *17*	4^-		Multipolarity=M4.
17.78×10^3 *1*	2^-		$\Gamma_{\gamma0}$=0.07 eV *1* Multipolarity=M2.
17880. *15*	(4^+)	20 keV *20*	T=(1) Multipolarity=E4.
18021. *23*	3^-		T=1
18.20×10^3 *1*	2^+	280 keV *20*	$\Gamma_{\gamma0}$=1.68 eV *22* Multipolarity=E2.
$\approx18.3\times10^3$		≈430 keV	
18.50×10^3 *1*	2^-	70 keV *5*	$\Gamma_{\gamma0}$=0.38 eV *7* Multipolarity=M2.
18635. *20*	(4^-)	35 keV *30*	T=(1)
18.79×10^3 *1*	1^+	120 keV *20*	$\Gamma_{\gamma0}$=5.3 eV *3*; T=1 Multipolarity=M1.
18968. *17*	4^-		T=1 Multipolarity=M4.
19.02×10^3 *4*	2^-	420 keV *50*	$\Gamma_{\gamma0}$=2.52 eV *38*; T=1 Multipolarity=M2. Total cross section is 12% M1 and 88% M2. This gives B(M1)↑=0.13 μ_n^2 3 and B(M2)↑=341 μ_n^2 51.
19206. *12*	3^-		T=1 Multipolarity=E3.
19430. *20*		150 keV *15*	
20185. *40*		0.40 MeV *10*	
20335. *25*		≈200 keV	
20510. *25*	(4^-)	50 keV *30*	T=(1)
20.88×10^3		≈90 keV	
20.95×10^3 *5*	1^-	270 keV *70*	$\Gamma_{\gamma0}$=180 eV *50*; T=1 Multipolarity=E1.
$\approx21.46\times10^3$		≈300 keV	
22.60×10^3 *2*		90 keV *40*	
23.0×10^3			
23.70×10^3 *25*	(2^-)		T=(1)
24.2×10^3			
25.50×10^3 *25*	1^-		T=1 Multipolarity=E1.
26.70×10^3 *25*	1^+		Multipolarity=M1.
44.5×10^3	(1^-)	2.5 MeV *5*	$\Gamma_{\gamma0}$=5300 eV; T=(1)
49×10^3	(1^-)	2.5 MeV *5*	$\Gamma_{\gamma0}$=19000 eV; T=(1)