Coulomb excitation 1987De35,1983Ge06,1959El42

History			
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	M. S. Basunia	NDS 107, 791 (2006)	15-Sep-2005

Others: 2000Va15, 1960Be16, 1955He64.

1987De35: (x,x′) x=^{16}O, E=59.5 MeV. Target: 99.9% enriched ^{176}Lu. Measured Eγ and Iγ at θ=125°. Measured γ(θ) at θ=30°, 42°, 55°, 65°, and 90°.

1983Ge06, 1983Ge02: (x,x′) x=a, E=9.5, 13.5, and 14.0 MeV. Target: enriched ^{176}Lu. Measured scattered α particles at θ=164°. Detectors: Si(Li), FWHM=22 keV.

2000Va15: (x,x′) x=^{32}S, E= 50, 60, 70, 80, and 120 MeV. Target: 99.5% enriched ^{176}Lu. Measured γ-rays, Iγ, ^{176}Hf x-rays. Detectors: Ge detector, and thin LeGe detector. Recoil method used. Deduced $T_{1/2}$=6 ps *+10 −4*, which is either for 838.64 or 921.47 keV level.

1960Be16: (x,x′) x=a, E=2-3.7 MeV. Target: natural Lu. Measured conversion electrons. Detector: magnetic spectrometer.

1959El42: (x,x′) x=p, d, E=4-4.5 MeV. Target: enriched ^{176}Lu. Measured scattered projectiles at θ=145°. Detector: magnetic spectrograph.

^{176}Lu Levels

E(level)	J^{π}‡	$T_{1/2}$	Comments
0.0†	7^-		
184.123† *11*	8^-	80 ps *6*	B(E2)=1.43 *6*, weighted average of 1.58 *10* (1959El42) and 1.41 *4*, deduced by 1990Br07 from Q(intrinsic)=6.98 *10* (1983Ge06). $T_{1/2}$: Deduce by evaluator from B(E2) and adopted γ-ray properties.
388.829† *12*	9^-	7.5 ps *11*	B(E2)=0.231 *15* (1959El42). $T_{1/2}$: Deduced by evaluator from B(E2) and adopted γ-ray properties.
≈578			E(level): observed by 1983Ge06 only.
613.43† *6*	10^-		

† Band(A): $K^{\pi}=7^-$ g.s. rotational band. Configuration=((π 7/2(404))+(ν 7/2(514))).

‡ From rotational structure and γ(θ).

γ(^{176}Lu)

E_{γ}†	I_{γ}†	E_i(level)	J_i^{π}	E_f	J_f^{π}	Mult.‡	δ	Comments
184.114 *12*	1000 *4*	184.123	8^-	0.0	7^-	M1+E2	0.42 *12*	δ: from ce(K)/ce(L) exp≈5.2 (1960Be16).
204.694 *15*	76 *4*	388.829	9^-	184.123	8^-	M1+E2	0.54 *17*	δ: from γ(θ) (1987De35). A_2=+0.150 *14* A_4=+0.041 *20* (1987De35).
224.71 *9*	3.0 *8*	613.43	10^-	388.829	9^-	(M1+E2)		Branching ratio=Iγ(429.2)/Iγ(224.7) (reverse in Table ii, probably a typo)=1.8 *5* (1987De35).
388.843 *15*	67.9 *17*	388.829	9^-	0.0	7^-	(E2)		A_2=+0.105 *10* A_4=+0.012 *13* (1987De35). Branching ratio=Iγ(388.8)/Iγ(204.7)=0.89 *5* (1987De35).
429.24 *7*	5.5 *5*	613.43	10^-	184.123	8^-	(E2)		

† From 1987De35.

‡ From γ(θ) and level scheme.

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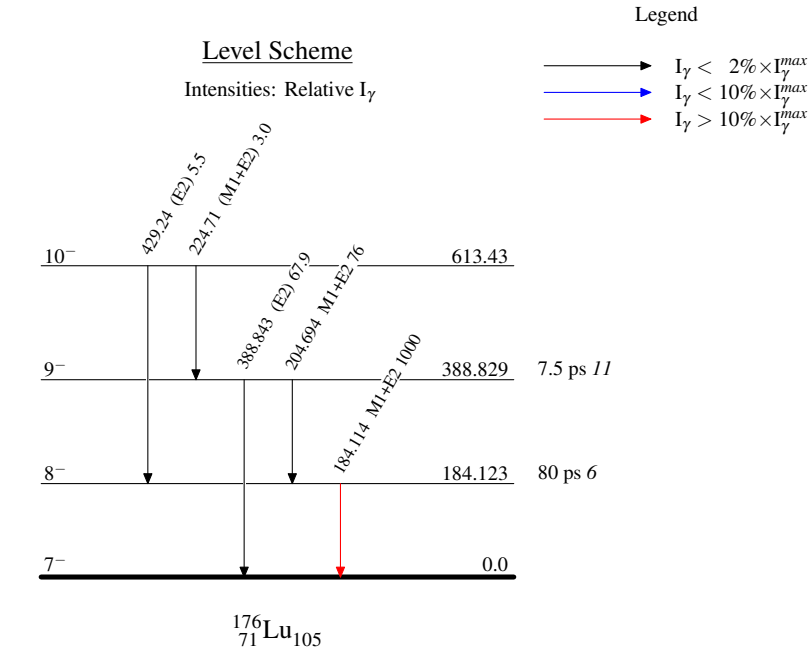

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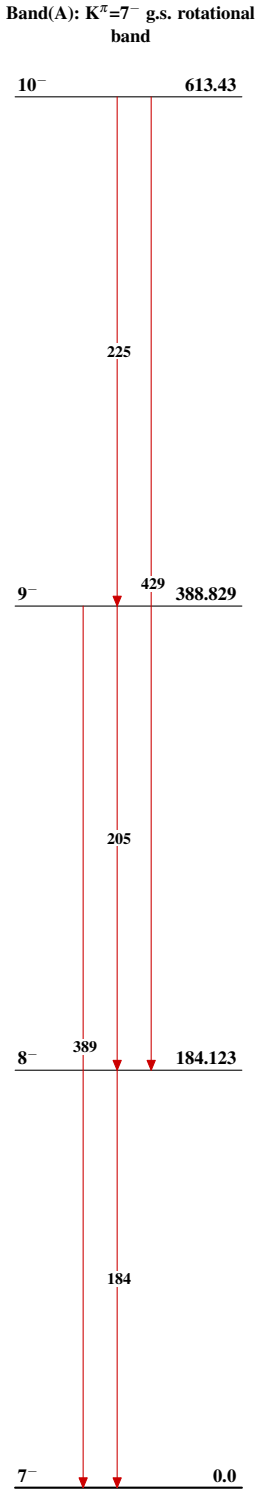

$^{176}_{71}Lu_{105}$