Coulomb excitation 1977Fa07,1975To06

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Yang Dong, Huo Junde	NDS 121, 1 (2014)	20-Jun-2014

Additional information 1.

1977Fa07, 1966Mc18: E(^{16}O)=33-36 MeV, also includes (α,$\alpha'\gamma$) E=3-10 MeV. Recoil implant, IMPAC, measured $^{16}O'\gamma(\theta,\beta)$ in polarized Gd at 80° K, NaI, coincidence.

1975To06: E(^{32}S)=62 MeV. Measured σ(Eγ, θ(^{32}S), θ($^{32}S'\gamma$)). Multiple detector particle γ-ray coincidence, NaI, Ge(Li). See also 1973ToXV.

1960An07, 1959Al95: E(^{14}N)=16-35 MeV. NaI.

1961Mc18: E(α), measured not abstracted.

1987Pa28: E(^{16}O)=36 MeV; measured $\gamma\gamma$(theta, H), γ(^{50}Cr)-γ(^{54}Cr)-coin. See also 1987BeYC.

2001Wa36: E(^{54}Cr)=115 MeV, measured Eγ, Iγ(θ,H,t).

2005Bu29: E(^{54}Cr)=100 MeV/nucleon, Measured Eγ, Iγ, $\gamma\gamma$, particle-γ coin with the RISING array of 15 Ge-Cluster detectors, the HECTOR array of 2 BaF_2 scintillation spectrometers and CsI detectors of CATE. Pb absorbers were used in front of the detectors to suppress γ rays with Eγ<500 keV.

^{54}Cr Levels

E(level)	J$^\pi$[†]	$T_{1/2}$	Comments
0.0	0$^+$		
835 *1*	2$^+$	8.0 ps *3*	B(E2)↑=0.087 *4* (2001Ra27); Q=−0.21 *8* (1975To06); g=0.840 *50* (2001Wa36) The G factor of the first state of ^{54}Cr was measured by 2001Wa36 employing the combined technique of projectile Coulomb excitation in inverse kinematics and transient magnetic fields. $T_{1/2}$: from B(E2). B(E2)↑: Others: 0.079 *20* (1959Al95), 0.057 *11*(1960An07), 0.106 *7* (1961Mc18), 0.100 *10* (1966Mc18), 0.0760 *19* (1973ToXV), 0.085 *3* (1975To06). g: others: 0.56 *10* (1977Fa07), 0.53 *12* (1987Pa28). Q: Determined from reorientation effect (1975To06).
1828 *10*	4$^+$		If the state is interpreted to be the result of double E2 excitation of a 4$^+$ state, the value obtained for the ratio B(E2)(1828 keV to 835 keV)/B(E2)(835 keV to 0)=2.16 *35* for ^{54}Cr (1966Mc18).

[†] From Adopted Levels.

γ(^{54}Cr)

Eγ	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$
835 *1*	835	2$^+$	0.0	0$^+$
994 *10*	1828	4$^+$	835	2$^+$

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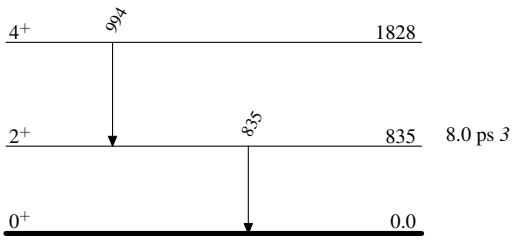
Level Scheme



$^{54}_{24}Cr_{30}$