Coulomb excitation 1996Sc31,2006Da08

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jun Chen	NDS 140, 1 (2017)	30-Sep-2015

1996Sc31: ^{197}Au(^{40}S,^{40}S′γ) E=39.5 MeV/nucleon ^{40}S beam was produced by fragmentation of ^{48}Ca primary beams with energy up to 80 MeV/nucleon and intensity as high as 5pnA provided from the K1200 cyclotron at NSCL on a 379 mg/cm^2 ^{9}Be primary target. The secondary target was a 184.1 mg/cm^2 gold. γ rays were detected by an array of 42 position-sensitive NaI(Tl) detectors. Measured Eγ, γ yield, γ(particle)-coin. Deduced level energy, B(E2), deformation parameter. Comparison with shell-model calculations.

2006Da08 (also 2006St21): ^{197}Au(^{40}S,^{40}S′γ) E≈40 MeV/nucleon ^{40}S beam was produced by fragmentation of 140 MeV/nucleon primary beam provided from the Cyclotron Facility of NSCL on a 1 g/cm^2 ^{9}Be target. Fragments were separated by the A1900 fragment separator. The secondary target was 355 mg/cm^2 gold. Projectiles were detected with a plastic scintillator and γ rays were detected with 14 HPGe detectors of the SeGA array. Measured Eγ, Iγ(θ,H,t), (particle)γ-coin. Deduced g-factor using transient field technique. Comparison with shell-model calculations.

^{40}S Levels

E(level)	J$^\pi$	T$_{1/2}$	Comments
0	0$^+$		
891 *13*	2$^+$	14.1 ps *+17−14*	B(E2)↑=0.0334 *36* (1996Sc31) μ=−0.02 *12* (2006Da08) E(level): from Eγ (1996Sc31). J$^\pi$: Coulomb excited from 0$^+$. T$_{1/2}$: deduced by evaluator from measured B(E2) in 1996Sc31 and adopted Eγ=903.68 *9* in Adopted Gammas. g-factor=−0.01 *6* (2006Da08). μ: from measured g-factor=−0.01 *6* using transient field technique (2006Da08).

γ(^{40}S)

E$_\gamma$	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Mult.	Comments
891 *13*	891	2$^+$	0	0$^+$	E2	E$_\gamma$: from 1996Sc31.

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Level Scheme