Coulomb excitation 1996Sc31,2006St21

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jun Chen	NDS 152, 1 (2018)	30-Sep-2017

1996Sc31: ^{197}Au(^{38}S,^{38}S′γ) E=39.2 MeV/nucleon ^{38}S radioactive beam was produced by fragmentation of ^{48}Ca and ^{40}Ar primary beams at E=80 MeV/nucleon impinging on a ^{9}Be target at NSCL. Scattered fragments were detected and identified with a cylindrical fast plastic-slow plastic phoswich detector and two PPACs. The secondary target was 184.1 mg/cm^2 gold. γ rays were detected with an array of 42 position-sensitive cylindrical NaI(Tl) detectors. Measured σ(Eγ). Deduced B(E2), deformation parameters.

2006St21,2006Da08: ^{197}Au(^{38}S,^{38}S′γ) E=1547.5 MeV ^{38}S radioactive beam was produced by fragmentation of a primary beam of ^{40}Ar at E=140 MeV/nucleon on a ^{9}Be target at NSCL. Fragments were separated by the A1900 recoil fragment separator. The secondary target was 355 mg/cm^2 gold. γ rays were detected by the SeGA array of 14 HPGe detectors. Measured Eγ, $\gamma(\theta)$. Deduced g factor of first 2$^+$ state by transient-field technique. Comparisons with shell-model calculations.

^{38}S Levels

E(level)	J$^\pi$	T$_{1/2}$	Comments
0	0$^+$		
1286 *19*	2$^+$	3.3 ps *+5−4*	g=+0.13 *5* (2006St21,2006Da08) B(E2)↑=0.0235 *30* (1996Sc31) β_2=0.246 *16* (1996Sc31) J$^\pi$: Coulomb excitation from 0$^+$. T$_{1/2}$: deduced from B(E2)↑.

γ(^{38}S)

E$_\gamma$	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Comments
1286 *19*	1286	2$^+$	0	0$^+$	E$_\gamma$: from 1996Sc31. 2006St21 and 2006Da08 quote 1292. $\gamma(\theta)$ distribution measured by 2006St21 and 2006Da08 for determination of g factor.

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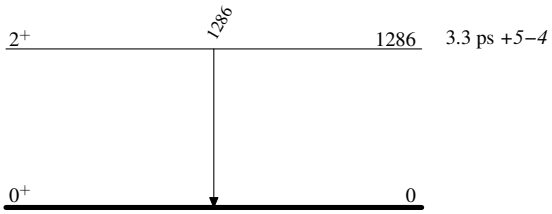
Level Scheme



$^{38}_{16}S_{22}$