Coulomb excitation   2005Di05

	History		
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	ENSDF	25-Mar-2022

2005Di05: beam=^{56}Ti at 89 MeV/nucleon produced in ^{9}Be(^{76}Ge,X) at E(^{76}Ge)=130 MeV/nucleon, followed by separation of fragments of interest using A1900 fragment separator and detected by S800 spectrograph at NSCL-MSU facility. Target=^{197}Au, 256 mg/cm^2 thick. Measured Eγ, Iγ, (particle)γ-coin, and Coulomb excitation yields using SeGA array of 15, 32-fold segmented Ge detectors for γ detection, placed at angles of 90° and 37° relative to the beam direction. The S800 spectrograph was used for scattered ^{56}Ti particles. Deduced B(E2) for the first 2$^+$ state in ^{56}Ti using Winther-Alder theory for analysis of measured Coulomb excitation yields. Comparison with Large-scale shell model calculations with GXPF1 and GXPF1A effective interactions.

Additional information 1.

<div align="center">^{56}Ti Levels</div>

E(level)	J$^\pi$	T$_{1/2}$	Comments
0.0	0$^+$		
1128.6 3	2$^+$	2.6 ps +13−7	B(E2)↑=0.0599 197 (2005Di05)
			E(level),J$^\pi$: from the Adopted Levels. Uncertainty from that in Eγ value.
			T$_{1/2}$: deduced by evaluator from B(E2)(up) measured by 2005Di05.

<div align="center">$\gamma(^{56}\text{Ti})$</div>

E$_\gamma$	E$_i$(level)	J$^\pi_i$	E$_f$	J$^\pi_f$	Comments
1128.6 3	1128.6	2$^+$	0.0	0$^+$	E$_\gamma$: from the Adopted Gammas.

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Level Scheme

2$^+$ 1128.6   2.6 ps +13−7

0$^+$ 0.0

$^{56}_{22}\text{Ti}_{34}$