^{197}Au(^{62}Fe,^{62}Fe′γ) 2011Ro02

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Alan L. Nichols, Balraj Singh, Jagdish K. Tuli	NDS 113, 973 (2012)	15-Apr-2012

Lifetime of the first 2^+ state using recoil-distance Doppler shift method (RDDS) in intermediate Coulomb excitation. Beam=^{62}Fe, target=^{197}Au Secondary ^{62}Fe beam at 97.8 MeV/nucleon produced in the fragmentation of ^{76}Ge beam at 130 MeV/nucleon with a ^{9}Be target, the beam provided by the NSCL at MSU. Measurements based on A1900 fragment separator and S800 spectrograph. E(^{62}Fe)=97.8 MeV/nucleon. Target=300 μm Au foil, degrader=300 μm Nb foil. Measured Doppler-shifted γ rays using SeGA array of HPGe detectors, and lifetime of the first 2^+ state by recoil-distance Doppler-shift method using Koln-NSCL plunger device. Comparison made with shell-model calculations and systematics of neighboring nuclides.

^{62}Fe Levels

E(level)	J$^\pi$	T$_{1/2}$	Comments
0	0^+		
877	2^+	5.5 ps *7*	T$_{1/2}$: from RDDS and line-shape analysis (2011Ro02).

γ(^{62}Fe)

E$_\gamma$	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Comments
877	877	2^+	0	0^+	B(E2)=0.0198 *25* from measured half-life of 5.5 ps *7*.

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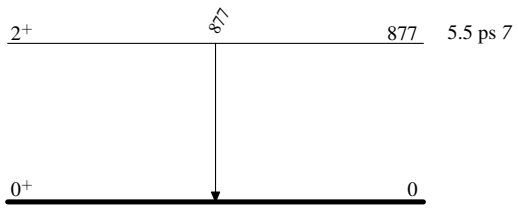
Level Scheme



$^{62}_{26}Fe_{36}$