Coulomb excitation 2007Hu03

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	G. Gürdal, E. A. Mccutchan	NDS 136, 1 (2016)	1-Jul-2016

2007Hu03: A ^{70}Se beam at an energy of 206 MeV (and with an average intensity of about 10^4 ions/s) was produced by spallation reaction using ZrO_2 target and 1.4 GeV protons from CERN PS Booster. 2.0 mg/cm^2 ^{104}Pd target was used to populate the 945-keV level in ^{70}Se. Gamma rays were detected with a highly-segmented MINIBALL array of HPGe detectors. This array consisted of eight triple cluster detectors with each crystal six-fold segmented thus making a total of 144 individual elements. The scattered beam and recoiling target particles were detected in a double-sided silicon CD detector. Deduced spectroscopic quadrupole moment of the first 2^+ state in ^{70}Se using nuclear reorientation effect. Computer code GOSIA used to analyze the multiple Coulomb excitation yields.

^{70}Se Levels

E(level)†	J^π‡	Comments
0	0^+	
945	2^+	Q=+ (2007Hu03). Diagonal E2 matrix element=−0.5 is required for agreement of the current measurement with earlier measured lifetime τ=1.5 ps *3* at 1σ level. This value implies prolate shape.

† From Eγ.
‡ From Adopted Levels.

γ(^{70}Se)

E_γ†	E_i(level)	J_i^π	E_f	J_f^π
945	945	2^+	0	0^+

† From 2007Hu03.

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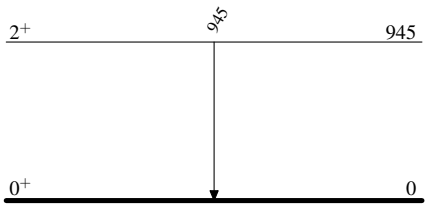
Level Scheme



$^{70}_{34}Se_{36}$