U(p,X) 2010Vi07

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Full Evaluation C. D. Nesaraja NDS 115, 1 (2014) 31-Jul-2013

2010Vi07: ⁶⁹Cu produced at ISOLDE-CERN facility by 1.4 GeV proton induced fission of uranium carbide target. Resonance Ionization laser ion source (RILIS) used to ionize the atoms followed by acceleration, high-resolution isotope separation (HRS), and gas cooled Paul trap ISCOOL. Measured hyperfine structure. Deduced spin, magnetic dipole moment and electric quadrupole moment of the ground state using high-resolution collinear laser spectroscopic technique. Comparison with large-scale shell-model calculations starting from ⁵⁶Ni core using effective shell model interactions.

⁶⁹Cu Levels

 $\frac{\text{E(level)}}{0.0} \quad \frac{\text{J}^{\pi}}{3/2^{-}}$

Comments

μ=+2.8383 10 (2010Vi07) Q=-0.147 16 (2010Vi07)

 $J^{\bar{\pi}}$: measured from hyperfine spectra, parity from comparison of level energies. Dominant $\pi 2p_{3/2}$ configuration.