U(p,F) 2019Xi07,2017Wr01

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	C. D. Nesaraja	NDS 207,1 (2026)	1-Apr-2023

2019Xi07: ^{69}Zn was produced by bombarding UC_x target with 1.4 GeV proton beam at the CERN-ISOLDE facility. Zn isotopes were selectively ionized by the RILIS laser ion source, accelerated to 30 keV, mass separated with the high-resolution mass separator, and injected into the COLLAPS setup. Measured hyperfine spectra and deduced changes in mean square charge radii relative to ^{68}Zn. Systematic uncertainty are mainly from uncertainty on atomic and field-shift factors. Comparisons were done with Monte Carlo Shell Model (MCSM) calculations.

2017Wr01: ^{69}Zn was produced by by bombarding UC_x target with 1.4 GeV proton beam at the CERN-ISOLDE facility. Zn isotopes were selectively ionized by the RILIS laser ion source, accelerated to 30 keV, mass separated with the high-resolution mass separator, and injected into the COLLAPS setup. Measured hyperfine spectra using collinear laser spectroscopy using COLLAPS setup at ISOLDE-CERN. Deduced spins, μ, Q, isomer. Comparison with large-scale shell model calculations.

For the calibration of nuclear moments, μ=+0.875479 *9* from literature and Q=+0.122 *10* (2017Wr01) for the stable ^{67}Zn nuclide were used as references.

^{69}Zn Levels

E(level)[†]	J^π	Comments
0	$1/2^-$	μ=+0.557 *2* (2017Wr01) μ: from measurement of hyperfine structure by collinear laser spectroscopy at ISOLDE-CERN (2017Wr01). J^π: 1/2 from measurement of hyperfine structure by collinear laser spectroscopy at ISOLDE-CERN. Parity from agreement of measured μ with theoretical values (2017Wr01). $\delta\langle r^2\rangle^{68,69}$ = 0.026 *6* (stat) *9* (syst) (2019Xi07).
439	$9/2^+$	μ=−1.1613 *7* (2017Wr01) Q=−0.39 *3* (2017Wr01) $\delta\langle r^2\rangle^{68,69}$ = 0.073 *3* (stat) *8* (syst) (2019Xi07). μ,Q: from measurement of hyperfine structure by collinear laser spectroscopy at ISOLDE-CERN (2017Wr01). J^π: 9/2 from measurement of hyperfine structure by collinear laser spectroscopy at ISOLDE-CERN. Parity from agreement of measured μ with theoretical values (2017Wr01).

[†] From the Adopted Levels, and rounded up to the nearest keV by the evaluator.