U(p,X) 2015Ru02

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Wang Jimin and Huang Xiaolong	NDS 144, 1 (2017)	1-Mar-2016

E(p)=1.4 GeV. Reaction products of Ca were selected by laser ionization, then ions accelerated up to 30-40 keV, followed by mass separation and injection into the ISOLDE-CERN radiofrequency quadrupole (RFQ) beam cooler, ISCOOL. Extracted bunches of 5 μs widths were then distributed to a dedicated beam line for collinear laser spectroscopy (COLLAPS). Measured optical hyperfine spectra, and analyzed hyperfine structure constants A and B. Deduced spectroscopic magnetic-dipole and electric quadrupole moments using reference isotope of ^{43}Ca with constant A($^2P_{3/2}$)=−806.40207160 MHz *8* and μ=−1.3173 *6* for 7/2$^-$ ground state. Comparison with earlier measurements.

^{51}Ca Levels

E(level)	J^π	Comments
0	3/2$^{(-)}$	μ=−1.0496 *11* (2015Ru02) Q=+0.036 *12* (2015Ru02) J^π: spin from hyperfine structure measurement (2015Ru02); parity from shell-model systematics. μ,Q: from collinear laser spectroscopy (2015Ru02).