U(p,F) 2009Ch09

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	S. K. Basu, G. Mukherjee, A. A. Sonzogni	NDS 111, 2555 (2010)	30-Jun-2009

2009Ch09: Measurement was performed at JYFL and data were obtained with IGISOL using $^{nat}U(p,f)^{92-108}Mo$ production reaction. Typical ion fluxes were 3000 s^{-1} for ^{91}Mo and 250 s^{-1} for ^{108}Mo. Recoiling ions in the ion guide were efficiently thermalized and extracted using a helium buffer gas and sextupole ion guide. Mass-analyzed ensembles were then cooled and bunched in an Rf quadrupole trap and accelerated to a laser-ion interaction region. A tuning voltage was applied to this region to Doppler tune ionic ensembles onto resonance. Resolved hyperfine resonances were then observed as a function of accelerating voltage. The accurately known magnetic moments of ^{95}Mo and ^{97}Mo, μ=−0.9142 *1* and −0.9335 *1* respectively, were used to provide an average calibration of the atomic magnetic field produced by the atomic electrons. Laser spectroscopy technique.

^{95}Mo Levels

E(level)	J^π	$T_{1/2}$	Comments
0.0	$5/2^+$	stable	$\Delta<r^2>(^{95}Mo,^{92}Mo)$=+0.410 fm^2 *26* (2009Ch09); uncertainty is systematic. Isotope shift($^{95}Mo,^{92}Mo$)=−925 MHz *13* (2009Ch09); total uncertainty is given; statistical uncertainty is 1. J^π,$T_{1/2}$: from Adopted Levels.