

²⁹Ar

The first observation of ²⁹Ar was reported by Mukha et al. in the 2018 paper “Deep excursion beyond the proton dripline. I. Argon and chlorine isotope chains” (2018Mu18). A 885 A·MeV ³⁶Ar beam from the SIS-FRS facility at GSI was used to produce a 620 MeV A·MeV ³¹Ar beam in the first half of the FRS set in a separator-spectrometer mode. Unbound reaction products were generated at the ⁹Be secondary target located at the FRS middle focal plane. The projectile-like fragments were analyzed by the second half of the FRS and the decay particles were measured by a double-sided silicon microstrip detector array. ²⁹Ar was populated by two-neutron knockout reactions. “The first-time observed state in ²⁹Ar with $S_{2p} = -5.50(18)$ MeV can be identified as either a ground state or an excited state according to different systematics.”

Adapted from reference (2019Th02)

2018Mu18 I. Mukha, L. V. Grigorenko, D. Kostyleva, L. Acosta *et al.*, Phys. Rev. C **98**, 064308 (2018).

2019Th02 M. Thoennessen, Int. J. Mod. Phys. E **28**, 1930002 (2019).

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