^{220}Np

In 2019, ^{220}Np was discovered by Zhang et al. in "New Isotope ^{220}Np: Probing the Robustness of the N = 126 Shell Closure in Neptunium" (2019Zh23). The Sector-Focusing Cyclotron (SFC) at the Heavy Ion Research Facility in Lanzhou (HIRFL) was used to accelerate a ^{40}Ar beam to 201 MeV and ^{220}Np was populated in the fusion evaporation reaction ^{185}Re(^{40}Ar,5n). Recoiled evaporation residues were separated with the gas-filled separator SHANS and implanted into three position-sensitive 16-strip detectors. ^{220}Np was identified by correlating implantation events with subsequent detection of α particles. "Based on the measurement of the correlated α-decay chains, the decay properties of ^{220}Np with E_α = 10040(18) keV and $T_{1/2} = 25^{+14}_{-7}\mu s$ were determined, which are in good agreement with theoretical predictions."

Adapted from reference (2023Th03)

2019Zh23 Z. Y. Zhang, Z. G. Gan, H. B. Yang, L. Ma *et al.*, Phys. Rev. Lett. **122**, 192503 (2019).

2023Th03 M. Thoennessen, Int. J. Mod. Phys. E **32**, 2330001 (2023).

Please cite this abstract as: "FRIB Nuclear Data Group, *Discovery of Nuclides Project*, Isotope Database, doi:10.11578/frib/2279152"