

^{222}Np

In 2020, Ma et al. discovered ^{222}Np in “Short-Lived α -Emitting Isotope ^{222}Np and the Stability of the $N = 126$ Magic Shell” (2020Ma27). A $250\ \mu\text{g}/\text{cm}^2$ thick ^{187}Re target was bombarded with a $198.7\ \text{MeV}$ ^{40}Ar beam at the Heavy Ion Research Facility in Lanzhou, China. ^{222}Np was formed in the reaction $^{187}\text{Re}(^{40}\text{Ar},5n)$. The gas-filled separator SHANS was used to separate the reaction products. The isotopes of interest were implanted in three position-sensitive 16-strip detectors which also recorded subsequent α decays. “The decay properties of ^{222}Np with $E_\alpha = 10016(33)\ \text{keV}$ and $T_{1/2} = 380_{-110}^{+260}\ \text{ns}$ were determined experimentally.”

Adapted from reference (2023Th03)

2020Ma27 L. Ma, Z. Y. Zhang, Z. G. Gan, X. H. Zhou *et al.*, Phys. Rev. Lett. **125**, 032502 (2020).

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](https://doi.org/10.11578/frib/2279152)”