

^{252}Rf

^{252}Rf was discovered by Khuyagbaatar et al. in the 2025 article “Stepping into the Sea of Instability: The New Sub- μs Superheavy Nucleus ^{252}Rf ” ([2025Kh01](#)). The UNiversal LInear ACcelerator (UNILAC) at GSI delivered ^{50}Ti beams of ~ 240 MeV onto $0.5 - 0.8$ mg/cm² thick enriched ^{204}PbS targets and ^{252}Rf was formed in 2n fusion-evaporation reactions. The gas-filled separator TASCA was separated the evaporatio residues and a double-sided silicon strip detector recorded the implantations and decay of the residues. “...we identified the new isotope ^{252}Rf and have observed its ground-state decay as well as the decay of a high-K isomeric state with half-lives of 60_{-30}^{+90} ns and 13_{-3}^{+4} μs , respectively.”

[2025Kh01](#) J. Khuyagbaatar, P. Mosat, J. Ballof, R. A. Cantemir *et al.*, Phys. Rev. Lett. **134**, 022501 (2025).

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