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## Laser spectroscopy of neutron-rich $^{207,208}\text{Hg}$ isotopes: Illuminating the kink and odd-even staggering in charge radii across the $N = 126$ shell closure

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The mean-square charge radii of  $^{207,208}\text{Hg}$  have been studied by the application of in-source resonance ionization laser spectroscopy, employing the ISOLDE-RILIS together with the Windmill detector and the ISOLTRAP MR-ToF MS. The characteristic kink in the charge radii at the  $N = 126$  neutron shell closure has been revealed, providing the first information on its behavior below  $Z = 82$ . This work was conducted as part of an experimental campaign which also investigated the neutron deficient end of the mercury isotope chain.

A theoretical analysis has been performed within relativistic Hartree-Bogoliubov and non-relativistic Hartree-Fock-Bogoliubov approaches, considering both the new mercury results and existing lead data. Contrary to previous interpretations, it is demonstrated that both the kink at  $N = 126$  and the odd-even staggering (OES) in its vicinity can be defined predominately at the mean-field level.

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