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The Coulomb Four-Body Problem: Electron Impact Double Ionization of Helium in the Threshold Regime XUEGUANG REN, ALEXANDER DORN, JOACHIM ULLRICH, Max-Planck-Institute for Nuclear Physics, Heidelberg, Germany — Double ionization of helium by electron impact represents one of the most fundamental four-body problems. While various experiments exist for fast collisions the threshold region where theories predict a strongly correlated and fully symmetric emission with 120° relative angles of the three electrons is unexplored concerning differential measurements. We present kinematical complete experiments for impact energies 27 eV and 5 eV above the threshold. At the lower energy clear signatures for the threshold region being reached and the symmetric electron emission are observed.

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