

# Leapfrogging vortex rings for the three dimensional Gross-Pitaevskii equation

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Leapfrogging motion of vortex rings sharing the same axis of symmetry was first predicted by Helmholtz in his famous 1858 work on the Euler equation for incompressible fluids. Its justification in that framework remains an open question to date. In this talk, we discuss a rigorous derivation of the corresponding leapfrogging motion for the axially symmetric three-dimensional Gross-Pitaevskii equation, which describes an ideal quantum fluid.

*This is joint work with Didier Smets.*

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