

Abstract Submitted
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Kelvin-Tkachenko modes of vortex arrays in trapped Bose-Einstein condensates TAPIO SIMULA, Monash University — Kelvin waves are helical single-vortex displacement waves propagating in the direction of the vortex axis. Tkachenko waves are transverse shear waves of many-vortex arrays. These two types of normal modes represent certain limits of generic three-dimensional vortex-waves. We have calculated the low-lying elementary excitation modes of fully three-dimensional vortex-arrays by solving the Bogoliubov-de Gennes equations.

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