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A quantitative Ornstein–Uhlenbeck fundamental gap in the plane

For a bounded convex domain of diameter D, J. Sun and K. Wang proved in 2025 that the Dirichlet Ornstein–Uhlenbeck fundamental gap is bounded below by the gap on the centered interval of length D. I will present a quantitative refinement for origin-symmetric planar domains, where the excess over the interval gap is bounded below by $c_D w^6/D^3$, with w the minimum width. This gives a planar Gaussian counterpart to the width-dependent estimate of Amato, Bucur, and Fragalà for the Dirichlet Laplacian. Joint work with M. Farajje.