

Abstract Submitted
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Coherent State Wave-Functions on a Torus with a Constant Magnetic Field MIKAEL FREMLING, Stockholm University — We study two alternative definitions of localized states in the lowest Landau level (LLL) on a torus. The first is to project a delta function onto the LLL, while the other is to put all the N zeros of the wave function at the same point, thus localizing the function at the vicinity of the antipodal point. These two families of localized states both have many properties in common with the coherent states on the plane and on the sphere, viz. a simple resolution of unity and a self-reproducing kernel. However, only the projected delta function gives maximally localized states. We also show how to project expressions containing holomorphic derivatives and nonholomorphic coordinates onto the LLL, and briefly discuss the importance of this for constructing hierarchical QH wave functions.

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