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Phase-fluctuating regime of a ring-shaped Bose-Einstein condensate LUDWIG MATHEY, NIST, ANAND RAMANATHAN, KEVIN WRIGHT, SERGIO MUNIZ, WILLIAM PHILLIPS, CHARLES CLARK — We study the phase-fluctuating condensate regime of ultra-cold atoms trapped in a ring-shaped geometry. We first consider a simplified box geometry, in which we identify the conditions to create a state that is dominated by thermal phase-fluctuations, and then explore the actual experimental geometry. We also address possible ways of detecting this regime.

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