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Quantum Hall physics in rotating Bose-Einstein condensates

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A few years ago it was realized theoretically that there is a close analogy between the physics of rapidly rotating atomic Bose condensates (BEC) and the quantum Hall effect (i.e. a two-dimensional electron gas in a strong magnetic field). Due to an extremely rapid development in experimental techniques over the past few years, experiments on BEC are now very close to reaching the quantum Hall regime. In this talk I will review the theoretical connection between these two seemingly very different physical systems, and show how intuition and techniques from quantum Hall physics can be applied to study the properties of rotating Bose condensates.