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Topological Entropy of Quantum Hall states in rotating Bose gases[1] ALEXIS MORRIS, DAVID FEDER, University of Calgary — Using exact numerical simulations of a small number of harmonically trapped ultracold alkali atoms at high rotation, we calculate the von Neumann entropy of the bosonic variant of the Laughlin and Pfaffian quantum Hall states. It has recently been shown that this entropy has a linear scaling with the boundary size. The y-intercept of this scaling relation corresponds to a universal quantity known as the topological entropy that is related to the quantum Hall filling factor. Through finite size scaling, we have extracted this quantity and compare the outcome to expected results.

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