

Abstract Submitted
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Clustering in quantum Hall wavefunctions and conformal field theory amplitudes¹ THOMAS JACKSON, NICHOLAS READ, Yale University, STEVEN SIMON, Oxford University — We consider lowest Landau level wavefunctions for bosons subjected to a magnetic field in the plane. We study the zero-energy eigenstates of a projection Hamiltonian which forbids three particles to come together with relative angular momentum less than six and, in addition, forbids one of two linearly-independent states of relative angular momentum six. The counting of edge excitations of this Hamiltonian agrees with the character formula for the $N=1$ superconformal Kac vacuum module at generic central charge c . This Hamiltonian is expected to be gapless for all c . For particular c , we try to “improve” the Hamiltonian by adding additional terms (related to singular vectors in the modules), so as to obtain a rational theory. We consider specifically states whose wavefunctions are related to the $M(8,3)$ and tricritical Ising CFTs.

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