

Abstract Submitted  
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**Model Wavefunctions For Non-Abelian Quasiparticles** B. ANDREI BERNEVIG, F.D.M. HALDANE, Princeton University — We present model wavefunctions for quasiparticle (as opposed to quasihole) excitations of the  $Z_k$  parafermion sequence (Laughlin/Moore-Read/Read-Rezayi) of Fractional Quantum Hall states. These states satisfy two generalized clustering conditions: they vanish when either a cluster of  $k + 2$  electrons is put together, or when two clusters of  $k + 1$  electrons are formed at different positions. For Abelian Fractional Quantum Hall states ( $k = 1$ ), our construction reproduces the Jain quasielectron wavefunction, and elucidates the difference between the Jain and Laughlin quasiparticle constructions. For two (or more) quasiparticles, our states differ from those constructed using Jain's method. By adding our quasiparticles to the Laughlin state, we obtain a hierarchy scheme which gives rise to a non-abelian  $\nu = \frac{2}{5}$  FQH state.

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