

Abstract Submitted  
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**Composite Fermion signature in the single particle spectrum of the fractional quantum Hall system** RAY ASHOORI, OLIVER DIAL, MIT, LOREN PFEIFFER, KEN WEST, Bell Laboratories, Alcatel-Lucent — Using time domain capacitance spectroscopy we measure the single particle spectrum of the fractional quantum Hall system. The very high energy resolution of the technique (limited ultimately only by sample temperature) allows us to uncover the existence of new spectral features. Among these is a sharp line that crosses the Fermi level at filling factor  $\nu = 1/2$ . The structure is consistent with the composite Fermion Landau fan, allowing measurement of the composite Fermion mass. Observation of this feature allows us to study the composite Fermion mass as a function of magnetic field and filling fraction.

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