

Abstract Submitted
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A new collective mode in the fractional quantum Hall liquid¹ GIOVANNI VIGNALE, University of Missouri, ILYA TOKATLY, Universität Erlangen-Nürnberg — We apply the methods of continuum mechanics to the study of the collective modes of the fractional quantum Hall liquid. Our main result is that at long wavelength there are *two* distinct modes of oscillations, while previous theories predicted only *one*. The two modes are shown to arise from the internal dynamics of shear stresses created by the Coulomb interaction in the liquid. Our prediction is supported by recent light scattering experiments, which report the observation of two long-wavelength modes in a quantum Hall liquid.

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