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The equilibrium colloidal crystal/colloidal liquid interface ERIC R. WEEKS, JESSICA HERNANDEZ-GUZMAN, Physics Dept., Emory University — We use confocal microscopy to study an equilibrated crystal-liquid interface in a colloidal suspension. The surface shows spatial fluctuations due to capillary waves. Local measurements of the structure and dynamics near the rough surface reveal that the intrinsic surface, while meandering in space, is locally sharply defined. Examining different quantities finds slightly different widths of this intrinsic surface. In terms of the particle diameter d, this width is either $1.3d$ (based on structural information) or $2.4d$ (based on dynamics), both not much larger than the particle size.

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