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Membrane-mediated colloidal interactions CASPER VAN DER WEL, DORIS HEINRICH, DANIELA KRAFT, Leiden University — Membrane proteins are known to play a key role in inducing curvature in biological membranes. This curvature leads to interactions between the proteins through minimization of the bending energy of the membrane. Simulations have shown a wide variety of interesting phenomena, for example how curvature influences protein sorting, but little is understood about the underlying physics. We study these membrane-mediated interactions using an experimental model system consisting of micron-sized polymer particles linked to a freestanding lipid membrane (GUV). The particles locally distort the membrane curvature and by that exhibit an attraction. The influence of the curvature distortion on the pairwise interaction is studied systematically by tracking the particles with confocal microscopy.

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