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Colloidal Electrostatic Interactions Measured on Holographic Line Traps MARCO POLIN, YOHAI ROICHMAN, DAVID GRIER, Center for Soft Matter Research, New York University — We measure the electrostatic colloidal interaction between two colloidal particles diffusing in water along a quasi-1D potential that we generated by shape-phase holography. Interparticle potential measurements are affected in principle by light-induced contributions generated by the confining potential. We present both a measurement of such effect and a method to correct for it without the need for an independent measurement. Fast and accurate measurements on a line tweezer have the potential to become a standard method for assessing locally both equilibrium and out-of-equilibrium processes.

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