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Real Time Observations of Decaying Colloidal Clusters MARCO POLIN, SANG-HYUK LEE, Department of Physics and Center for Soft Matter Research, New York University, WILLEM KEGEL, van 't Hoff Laboratories for Physical and Colloid Chemistry, Debye Research Institute Utrecht University, ANDREW HOLLINGSWORTH, DAVID GRIER, Department of Physics and Center for Soft Matter Research, New York University — We have studied model colloidal dispersions characterized by long-range electrostatic repulsions and short-range entropically driven attractions. Through a combination of holographic optical trapping and precision digital video microscopy we can create nonequilibrium cluster configurations and track their decay fluctuations. These measurements reveal density and shape fluctuations that accompany the decay of the clusters. Such processes may cast additional light on decay of large atomic nuclei.

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