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**Effects of Particle Shape on Growth Dynamics at Edges of Evaporating Drops of Colloidal Suspensions**[1] PETER J. YUNKER, Harvard University, MATTHEW A. LOHR, TIM STILL, University of Pennsylvania, ALEXEI BORODIN, Massachusetts Institute of Technology, D.J. DURIAN, A.G. YODH, University of Pennsylvania — We study the influence of particle shape on growth processes at the edges of evaporating drops. Aqueous suspensions of colloidal particles evaporate on glass slides, and convective flows during evaporation carry particles from drop center to drop edge, where they accumulate. The resulting particle deposits grow inhomogeneously from the edge on the air-water interface in two-dimensions. The deposition front, or growth line, varies in space and time. Measurements of the fluctuations of the deposition front during evaporation enable us to identify distinct growth processes. Interestingly, three distinct growth processes were discovered in the evaporating colloidal suspensions by tuning particle shape-dependent capillary interactions and thus varying the microscopic rules of deposition. Sphere deposition exhibits a classic Poisson like growth process; deposition of slightly anisotropic particles, however, appears to belong to the Kardar-Parisi-Zhang (KPZ) universality class, and deposition of highly anisotropic ellipsoids appears to belong to a third universality class, characterized by KPZ fluctuations in the presence of quenched disorder.

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