

Abstract Submitted
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Evaporation in dense suspension droplets¹ JIN YOUNG KIM, SKKU Advanced Institute of Nanotechnology (SAINT), Sungkyunkwan University, BYUNG MOOK WEON, School of Advanced Materials Science and Engineering, SKKU Advanced Institute of Nanotechnology (SAINT), Sungkyunkwan University — When a drop on a solid surface dries, a variety of drying dynamics emerge eventually. Here we show how colloidal particles affect drying dynamics in colloidal suspensions. By comparing drying dynamics of pure and colloidal fluids using confocal microscopy and mass balance, we demonstrate that the drying dynamics of colloidal fluids strongly depend on the colloid size and the initial concentration. The role of colloidal particles is complicated in the drying processes and related to the hydrodynamics for the porous medium. This work would offer clues for the dynamic nature of colloidal fluids and help to understand the drying-mediated processes such as spreading, painting, coating, and evapotranspiration.

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