

The role of polymer in drying behavior of silica/PVA suspension

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Particle/polymer suspensions can serve model suspensions of complex fluids used in technical application such as display and batteries. Polymers have been used to promote stability or destabilize the suspension depending on the nature of interactions between the polymer and the solvent and between polymer and the particles. We explore the effect of polymer on film formation of particle/polymer suspension with an emphasis on suspension stability. Silica/polyvinyl alcohol (PVA) suspension is used as a model suspension and stress measurement apparatus during drying based on beam deflection method was employed to characterize the film formation. We present the effect of both polymers by adjusting experimental variables such as pH, mixing time and polymer concentration.