

Abstract Submitted
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Self-pinning by colloids confined at a contact line¹ BYUNG MOOK WEON², JUNG HO JE³, Pohang University of Science and Technology — Colloidal particles suspended in a fluid usually inhibit complete wetting of the fluid on a solid surface and cause pinning of the contact line, known as self-pinning. We show differences in spreading and drying behaviors of pure and colloidal droplets using optical and confocal imaging methods. These differences come from spreading inhibition by colloids confined at a contact line. We propose a self-pinning mechanism based on spreading inhibition by colloids. We find a good agreement between the mechanism and the experimental result taken by directly tracking individual colloids near the contact lines of evaporating colloidal droplets.

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²Research Assistant Professor

³Professor

Byung Mook Weon
Pohang University of Science and Technology

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