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Effect of ICs on dynamics of contracting filaments XIAO LIU, HANSOL WEE, CHRISTOPHER ANTHONY , Purdue University, PRITISH KAMAT, Dow Incorporated, OSMAN BASARAN, Purdue University — Liquid filaments arise in printing and spraying applications from the breakup of drops, jets, and sheets. These filaments may retract into a single drop or breakup into many smaller droplets (satellites/fines). Satellites are typically unwanted and, therefore, their formation must be suppressed. Thus, improving the understanding of the mechanism(s) of filament breakup is highly desirable. The dynamics of initially quiescent filaments have been studied extensively by numerous investigators to date. Here, we focus on the effect of a non-zero initial velocity profile within a contracting filament, a topic that has heretofore received limited attention.

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