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Bahaudin A Hashmi* (bhashmi88@gmail.com). *Modeling of Pattern Formation in Vapor-to-Particle Reactions.*

Liesegang ring formation is a special type of chemical pattern formation in which the spatial order is formed by density fluctuations of a weakly soluble salt. The vapor-to-particle nucleation process that is believed to produce these Liesegang rings is theorized to be the cause of mini-tornadoes and mini-hurricanes developed in a lab. In this talk, we develop a one-dimensional finite element scheme for a model of laboratory experiments in which ammonia and hydrogen chloride vapor sources are presented to either end of tubes. A reaction zone develops and produces rings as it propagates along the tube. We show that the simulation results exhibit similarities with laboratory experiments. (Received September 22, 2015)