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Capillary-Rise Dynamics in Porous Materials JAVED SIDDIQUE, Pennsylvania State University, DANIEL ANDERSON, George Mason University — In this study we explore the role of partial saturation and accompanying variations in permeability and capillary pressure in capillary rise dynamics into porous material. Experiments show a deviation from the classical Washburn model dynamics after early times and our aim in this work is to investigate this deviation. We use multiphase mixture theory for modeling to capture in a single framework the complex dynamics and are interested in both rigid and deformable porous materials. We hope to compare the results of our model to experimental data.

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