

1116-VC-2591 **Michaela Kubacki*** (mkubacki@middlebury.edu), 05753, and **Vince Ervin, William Layton, Marina Moraiti, Zhiyong Si** and **Catalin Trenchea**. *Partitioned Methods for the Evolutionary Stokes-Darcy-Transport Problem*. Preliminary report.

There has been a surge of work on models for coupling surface-water with groundwater flows, which is at its core the Stokes-Darcy problem, as well as methods for uncoupling the problem into subdomain, subphysics solves. The resulting (Stokes-Darcy) fluid velocity is important because the flow transports contaminants. The numerical analysis and algorithm development for the evolutionary Stokes-Darcy-transport problem has, however, focused on a quasi-static Stokes-Darcy model and a single domain (fully coupled) formulation of the transport equation. We present a numerical analysis of partitioned methods for the fully evolutionary system, including contaminant transport, that require only one subdomain solve per step. (Received September 22, 2015)