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**Shuang Li\*** ([sli@math.sc.edu](mailto:sli@math.sc.edu)), Department of Mathematics, University of South Carolina, Columbia, SC 29208, and **Hong Wang**. *Numerical Simulation of Fractured Porous Medium*.

We consider fluid flow problem in a fractured porous medium. Models for fluid flow in the fractured medium are derived as interface problems. We develop a finite volume method to solve the resulting coupled system of pressure equation and concentration equation by utilizing the idea of domain decomposition to treat the interface properly. Numerical experiments are presented and error estimates are discussed to show the potential of the method. (Received September 27, 2005)