Hybrid Finite Volume Discretization of Two-Phase Discrete Fracture Matrix Models

J. Aghili, K. Brenner, R. Masson (Université Côte d'Azur, Inria-CNRS, LJAD)

J. Hennicker (Univ. of Geneva),

L. Trenty (Andra)

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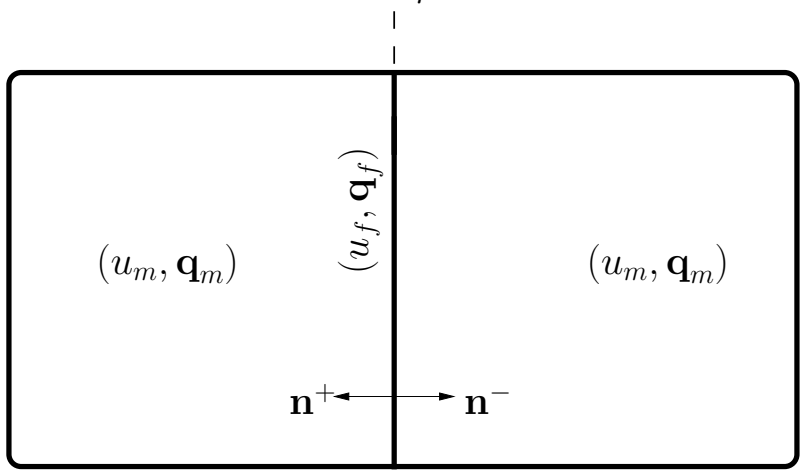
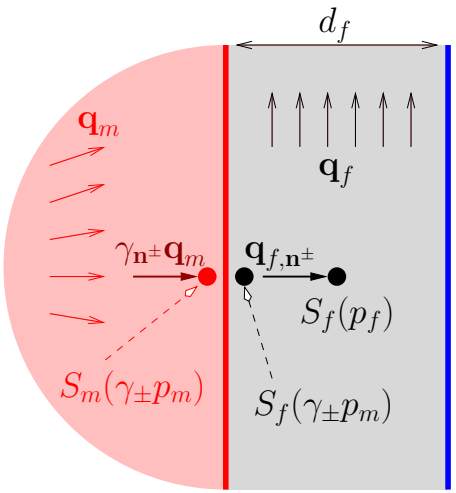
Model

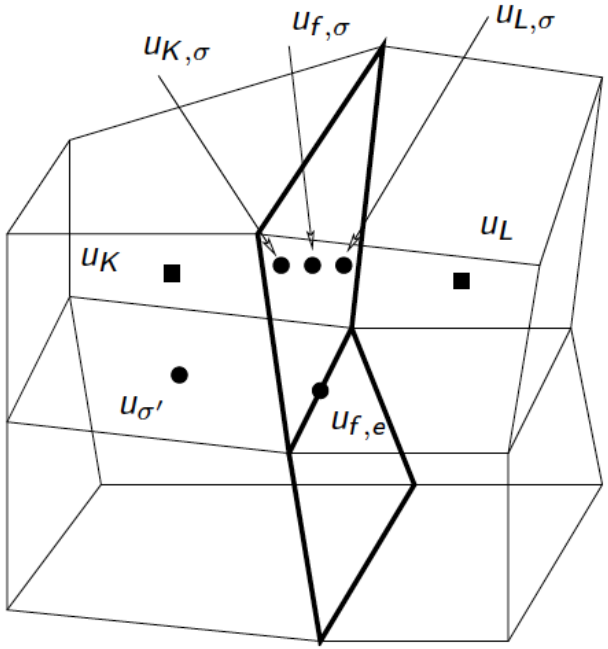
- Co-dimension one flow in the fracture network coupled with the flow in the matrix
- Robin type nonlinear transmission conditions with saturation jump

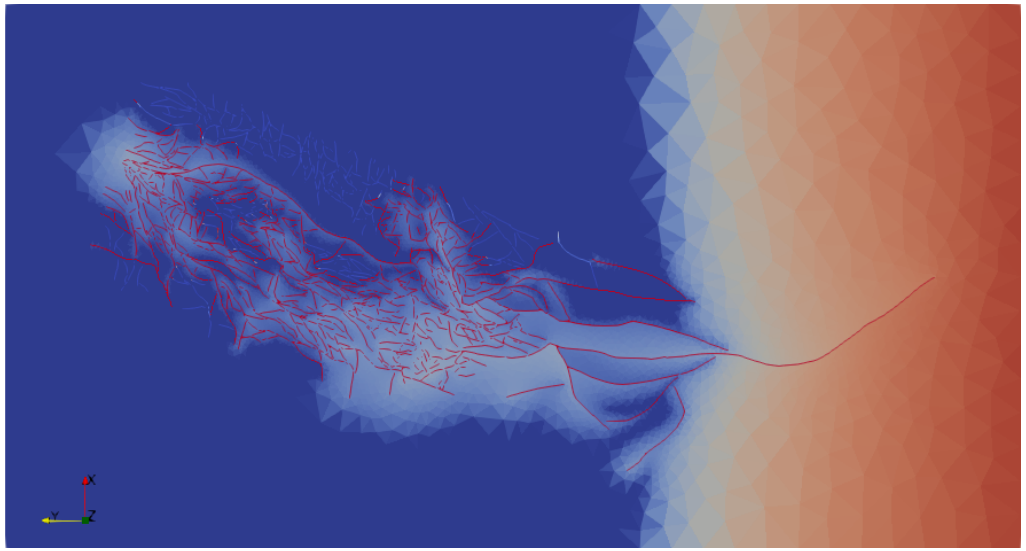




Discretization

- Hybrid Finite Volume scheme on polytopal meshes
- Fully implicit time integration
- Nonlinear elimination of matrix fracture interfacial unknowns





Oil saturation
Mesh: courtesy of M.K. Fard (Stanford) and A. Lapène (Total)