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A model for two-phase flow in a porous medium with fractures

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We present a formulation for two-phase flow in a porous medium containing a discrete fracture, i. e. a fracture to be included explicitly in the model. In the model the fracture is represented as an interface inside the rock matrix with nonlocal transmission conditions at the interface that allow for communication between the flow in the fracture and flow in the matrix. Different rock types, that is different capillary pressure and different relative permeability curves, between the matrix and the fracture are taken into account. Preliminary numerical results will be shown.