A CONSERVATIVE DISCRETIZATION FOR LINEAR POROELASTICITY

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ABSTRACT. Coupling of the flow field and deformation of the solid matrix in linear poroelasticity following Biot’s model is conveyed mostly through the divergence of both fields. Therefore, we propose a discretization scheme with improved accuracy and local conservation for the divergence. We will present the basic analysis and first numerical results.

Keywords: Linear poroelasticity, Biot’s model, local conservation

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