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Robust mixed finite element methods for the Biot-Stokes interfacial coupling

by

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Time: 5:00pm – 6:00pm

ABSTRACT

I will discuss discretisations for a fluid-poroelasticity interaction model. A five-field finite element scheme solves for Stokes velocity-pressure and Biot displacement-total pressure-fluid pressure. One of the distinctive features of the formulation is that its stability is established robustly in all material parameters. We propose robust preconditioners for this perturbed saddle-point problem using operators in weighted fractional spaces at the interface. The performance is corroborated by several test cases.

Register in advance for this talk:
https://cityu.zoom.us/meeting/register/tJ0lde2orD0jHtOdnAF33jBFYICyDrwN9zpp
[Zoom link will be provided via email after registration.]

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