

Pressure robust discretizations of the Stokes equations

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Pressure robust finite element discretizations of the Stokes equations have attracted a growing attention in recent years. Pressure robustness means that the approximate velocity field is independent of the pressure or, equivalently, that the invariance of the exact velocity field with respect to irrotational forces is reproduced at the discrete level. We review this notion and discuss its relevance and the practical consequences. Then, we point out the conditions that are relevant to achieve pressure robustness and we list some finite element discretizations enjoying it.