Erratum

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Uniform preconditioners for the time dependent Stokes problem

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It has been observed by M. Olshanskii and A. Reusken that there is a gap in the proof of Lemma 1 of our paper [2]. The bound (4) should not be applied directly to the operator $\mathbf{grad}^{-1}$, but to an operator of the form $T = \mathbf{grad}^{-1} \circ P$ mapping the entire space H^{-1} onto L_0^2 . It is required that the operator P maps H^{-1} onto the space $G_0 = \mathbf{grad} (L_0^2)$, is invariant on G_0 , and bounded in H^{-1} and L^2 . The desired bound then follows by applying (4) to the identity $q = T \mathbf{grad} q$. The natural choice for P is the H^{-1} projection onto G_0 , defined from the linear Stokes system, which is L^2 bounded if the polygonal domain Ω is convex, cf. [1]. Therefore, convexity of Ω should be stated as an assumption of Lemma 1 and the later discussion given in [2]. We refer to [3] for further details.

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