

Besov Regularity for the Stokes Problem

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Abstract

This paper is concerned with regularity estimates for the solutions to the Stokes problem in polygonal domains in \mathbb{R}^2 . Especially, we derive regularity results in specific scales of Besov spaces which arise in connection with adaptive numerical schemes. The proofs of the main results are based on representations of the solution spaces which were given by Osborn and on characterizations of Besov spaces by wavelet expansions.

Key Words: Stokes problem, adaptive methods, nonlinear approximation, Besov spaces, wavelets.

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