A pressure-robust virtual element method for the Stokes problem on polygonal/polyhedral meshes

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Abstract

Virtual element methods (VEMs) are a novel technique for solving partial differential equations on almost arbitrary polyhedral geometries. This talk presents the basic ideas of VEMs and explains the problems of a common known virtual element method for the Stokes problem. Afterwards we will establish a new pressure-robust version allowing for accurate approximations of the Stokes problem even for small viscosities.