

# Hybrid DG methods for incompressible Navier Stokes equations

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In this talk we will present a new discretization for the incompressible Navier Stokes Equations based on divergence-conforming Finite Elements for the velocity field and a hybrid Discontinuous Galerkin Formulation for the viscous bilinear form. Furthermore we will take advantage of a special construction of the  $H(\text{div})$ -conforming Finite Element space based on the exact sequence which allows for eliminating all basis functions which are not divergence-free except for the lowest order ones. The reduction of the set of trial functions as well as the hybridization of the DG formulation allow for an efficient numerical solution of the Navier Stokes Equations.