

A Posteriori Error Estimation for hp-Version Galerkin Timestepping for Linear Parabolic PDEs

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We will present an hp-version a posteriori error analysis for the time discretisation of parabolic problems by both continuous (cG) and discontinuous Galerkin (dG) time-stepping methods within an abstract framework. The resulting error estimators are fully explicit with respect to the local time steps and approximation orders (polynomial degrees). Their performance within an hp-adaptive time stepping procedure will be illustrated with a number of numerical experiments.