

1154-65-1441

Kyle Allaire* (kyle.allaire@uconn.edu) and **Dmitriy Leykekhman**
(dmitriy.leykekhman@uconn.edu). *Discrete Maximal Parabolic Regularity for Time
Discontinuous Galerkin Finite Element Schemes*. Preliminary report.

For parabolic problems $u_t + Au = f$, where A is a second order elliptic operator, maximal parabolic regularity is an important established tool for studying nonlinear operators and general problems where sharp regularity results are required. Recently, there has been growing interest in establishing similar results for time discrete approximations. All known results are for self-adjoint operators, A . In this talk, we'll discuss such results for discontinuous Galerkin time schemes and describe how these results can be extended to non-self-adjoint operators, such as advection-diffusion-reaction problems. (Received September 15, 2019)