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Aaron F Rapp* (afrapp@uncg.edu), **Tom Lewis** and **Yi Zhang**. *Convergence analysis of symmetric dual-wind discontinuous Galerkin methods for the obstacle problem.*

A discontinuous Galerkin (DG) finite-element interior calculus is used as a common framework to describe various DG approximation methods for second-order elliptic problems. In this presentation, we will discuss the dual-wind discontinuous Galerkin method and its application to the obstacle problem with Dirichlet boundary conditions, $-\Delta u \geq f$ on Ω with $u = g$ on $\partial\Omega$ and $u \geq \psi$ on $\bar{\Omega}$. Our analytical results will be presented. Numerical examples that verify these results will also be presented. (Received September 16, 2019)