TEMPLE UNIVERSITY
Department of Mathematics

Applied Mathematics and Scientific Computing Seminar

Room 617 Wachman Hall

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Weak Galerkin Method on Elements of General Geometric Shapes

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Abstract.

In this talk, the weak Galerkin finite element methods for second order elliptic problems and interface problems employing: (1) polytopal elements with small edges or faces (2) curvilinear polytopal elements with Lipschitz continuous edges or faces, were analyzed. The methods are designed to deal with second order problems with complex boundary conditions or complex interfaces. With the shape regular assumptions, optimal convergence rate for H^1 and L^2 error estimates were obtained.