

MODELING, APPROXIMATION, AND ANALYSIS OF PARTIAL
DIFFERENTIAL EQUATIONS INVOLVING SINGULAR SOURCE
TERMS (MS - ID 39)

~~Discontinuous Galerkin Discretisations for Problems
with Dirac Delta Source~~

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We investigate the symmetric interior penalty discontinuous Galerkin (SIPG) scheme for the numerical approximation of linear second-order elliptic PDE with Dirac delta right-hand side. We outline both an a priori and a (residual-type) a posteriori error analysis on the error measured in terms of the L^2 -norm. Moreover, some computational results will be presented. Finally, a brief outlook on an inf-sup theory in weighted Sobolev spaces will be given.