

Publications

1. J. Guzmán, *Quadrature and Schatz's pointwise estimates in finite element methods*, BIT 45 (2005), 695-707.
2. J. Guzmán, *Local analysis of discontinuous Galerkin methods applied to singularly perturbed problems*, J. Numer. Math. 14 (2006), 41-56.
3. J. Guzmán, *Pointwise estimates for discontinuous Galerkin methods with lifting operators for elliptic problems*, Math. Comp. **75** (2006), 1067-1085.
4. J. Guzmán, *Local and pointwise error estimates of the local discontinuous Galerkin method for Stokes Problem*, Math. Comp. **77** (2008), 1293-1322.
5. B. Cockburn, B. Dong and J. Guzmán, *Optimal convergence of the original discontinuous Galerkin method for the transport-reaction equation on special meshes*, SIAM J. Numer. Anal. 46 (2008), 1250-1265.
6. B. Cockburn and J. Guzmán, *Error estimates for the Runge-Kutta discontinuous Galerkin method for the transport equation with discontinuous initial data*, SIAM J. Numer. Anal. 46 (2008), 1364-1398.
7. B. Cockburn, B. Dong and J. Guzmán, *A superconvergent LDG-hybridizable Galerkin method for second order elliptic problems*, Math. Comp. 77 (2008), 1887-1916.
8. B. Cockburn, J. Guzmán and H. Wang, *Superconvergent discontinuous Galerkin methods for second-order elliptic problems*, Math. Comp., 78 (2009), 1-24.
9. E. Burman, J. Guzmán and D. Leykekhman, *Weighted error estimates of the continuous interior penalty method for singularly perturbed problems*, IMA J. Numer. Anal., 29 (2009), 284-314.
10. J. Guzmán, and B. Riviere, *Suboptimal convergence of nonsymmetric discontinuous Galerkin method for odd polynomial approximations*, J. Sci. Comp., 40 (2009), 273-280.
11. J. Guzmán, D. Leykekhman, J. Rossmann and A. Schatz, *Hölder estimates for Greens functions on convex polyhedral domains and their applications to finite element methods*, Numer. Math., 112 (2009), 221-243.
12. B. Cockburn, B. Dong and J. Guzmán, *A hybridizable and superconvergent discontinuous Galerkin method for biharmonic problems*, J. Sci. Comput., 40 (2009), 141-187.
13. B. Cockburn, J. Guzmán, C.-S. Soon and H. Stolarski, *Analysis of the embedded discontinuous Galerkin method for second-order elliptic problems*, SIAM J. Num. Anal., accepted.
14. B. Cockburn, B. Dong, J. Guzmán, M. Restelli and R. Sacco, *A hybridizable discontinuous Galerkin method for steady state convection-diffusion-reaction problems*, SIAM J. Sci. Comp., accepted.
15. A. Demlow, J. Guzmán, and A.H. Schatz, *Local energy estimates for the finite element method on sharply varying grids*, in revision.
16. B. Cockburn, B. Dong, J. Guzmán and J. Qian, *Optimal convergence of the original DG method in special meshes for variable velocity*, in revision.
17. F. Celiker and J. Guzmán, *Analysis of high-order streamline diffusion methods on arbitrary grids and optimal convergence on layer adapted meshes*, submitted.
18. B. Cockburn, J. Gopalakrishnan and J. Guzmán, *A new elasticity element made for enforcing weak stress symmetry*, Math. Comp., accepted.
19. J. Gopalakrishnan and J. Guzmán, *A second elasticity element using the matrix bubble with tightened stress symmetry*, submitted.