# A local projection stabilized Lagrange-Galerkin method for convection-diffusion equations

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## SUMMARY

We present and analyze a Lagrange-Galerkin (LG) method combined with a local projection stabilization (LPS) technique for convection dominated convection-diffusion-reaction equations. This type of stabilization improves the accuracy and performance of conventional LG methods when the diffusion coefficients very small. Numerical test support the results of the numerical error analysis

**Keywords:** Lagrange-Galerkin, local projection stabilization

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