

# Hybridized schemes of the discontinuous Galerkin method for stationary convection-diffusion problems

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## Abstract

© 2016, Pleiades Publishing, Ltd. For stationary linear convection-diffusion problems, we construct and study a new hybridized scheme of the discontinuous Galerkin method on the basis of an extended mixed statement of the problem. Discrete schemes can be used for the solution of equations degenerating in the leading part and are stated via approximations to the solution of the problem, its gradient, the flow, and the restriction of the solution to the boundaries of elements. For the spaces of finite elements, we represent minimal conditions responsible for the solvability, stability, accuracy, and superconvergence of the schemes. A new procedure for the post-processing of solutions of HDG-schemes is suggested.

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