

The presented work deals with the discontinuous Galerkin method with the anisotropic mesh adaptation for stationary convection-diffusion problems. Basic definitions are included in an introduction where we also present the used method. The following parts describe various methods for evaluating a Riemann metric, which is necessary for anisotropic mesh adaptation. The most important part of work follows - numerical experiments carried out with ADGFEM and ANGENER software packages. In these experiments, we compare different approaches for the definition of Riemann metrics and compare their efficiency. The main output of this thesis are subroutines for evaluation of the Riemann metric including its source code.