

A Posteriori Estimation of Error Norm via Approximation Error and Adjoint Parameters.

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An estimation of the global norm of solution error is addressed using local approximation error, tangent linear problem and especial adjoint problem loaded by the information from tangent problem. This approach is aimed to provide not only a value of solution error norm but although the local sensitivity of this norm to approximation error. The local approximation error used in analysis is obtained by an action of high order finite-difference stencil on the field that is previously computed by main low order algorithm. The numerical tests for diffusion equation are presented.