Abstract: *We introduce a method for treating general boundary conditions in the finite element method generalizing an approach, due to Nitsche (1971), for approximating Dirichlet boundary conditions. We use Poisson's equations as a model problem and prove a priori and a posteriori error estimates. The method is also compared with the traditional Galerkin method. The theoretical results are verified numerically.*

Correspondence

mika.juntunen@tkk.fi, rolf.stenberg@tkk.fi

Helsinki University of Technology
Department of Engineering Physics and Mathematics
Institute of Mathematics
P.O. Box 1100,   FI-02015 TKK,   Finland
email:math@tkk.fi   http://math.tkk.fi/