Multidimensional Inverse Heat Conduction Calculations

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Inverse Heat Conduction Problems (IHCPs) have been extensively studied over the last 50 years. They have numerous applications in many branches of science and technology. The problem consists in determining the temperature and heat flux at inaccessible parts of the boundary of a 2- or 3-dimensional body from corresponding data – called 'Cauchy data' – from accessible parts of the boundary. It is well-known that IHCPs are illposed which means that small perturbations in the data may cause large errors in the solution.

In this contribution we give a short overview over our contributions to multidimensional IHCP's and indicate what computational results for which sort of problems we have obtained.

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