PhD position in applied mathematics

One PhD position is available within the project "Efficient algorithms for microwave imaging based on a new non-local optimization approach" at the Department of Mathematical Sciences, Chalmers University of Technology and Gothenburg University.

The aim of the project is the development, mathematical analysis and implementation of reliable numerical methods for solution of CIPs for Maxwell's equations with the goal of reconstruction of the spatially distributed dielectric permittivity and the conductivity functions from scattered boundary measurements of electrical field. Such CIPs have broad range of applications including imaging of hidden explosives, geophysics, medical imaging, etc.

Job description

PhD position concerns development of an adaptive finite element method for the solution of the Coefficient Inverse Problem (CIP) for time-dependent Maxwell equations for electric field in conductive media. The main focus in the project will be on development of new versions of domain decomposition FEM/FDM method implemented in the existing software package WavES (waves24.com) for the specific problems of this project.

The topic of this PhD degree is applied mathematics and thus it provides a good grounding for pursuing a future academic research career. There will be also a great demand for your skills in industry. PhD position is limited to 5 years and will include 20% teaching duties.

Required qualifications

Candidate for PhD position should hold a Master degree in Computer Science or Applied Mathematics, or equivalent, awarded by an internationally recognized university-level institution or documented equivalent thereof.

Since the work involves teaching, participation in international conferences and writing of scientific papers, good communication skills and knowledge of both written and spoken English are prerequisites.

Contact information

If you are interested in this position, please sent e-mail to the head of the project Larisa Beilina, larisa@chalmers.se.