Institut für
Angewandte Mathematik

Leibniz
Universität
Hannover

Institut für Angewandte Mathematik
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Oberseminar
Analysis und Theoretische Physik

Prof. Dr. Guido Sweers
(Universität Köln)

Elliptic boundary value problems on domains with corners

Whenever the domain, where the elliptic differential condition should be satisfied, has corners, one usually view such corners as an obstruction for obtaining the full regularity. In order to find optimal results the usual approach with such a boundary is to remain in the range of weak solutions or to search for help in the technically challenging theory of Kondratiev's weighted Sobolev spaces. A lesser known aspect is that, especially with reentrant corners, multiple weak versions for the modeling of the boundary value problem exist, each of which has its own unique solution. This is not just a technical aspect. When dealing with the fourth order Kirchhoff-Love plate equations the corresponding phenomena have their impact on the engineering view of the problem. Even a rectangular plate, supported at the boundary and pushed downwards somewhere in the interior, does not satisfy the boundary conditions that are usually called supported but instead some unilateral conditions which let the plate move upwards near its corners. We will address several examples where classical boundary conditions do not make sense at the corner and the correct weak formulation is not so obvious.

Dienstag, 23. Januar 2018, 15:00 Uhr, Raum c311
Hauptgebäude der Universität

Über Ihren Besuch würden sich freuen:

Prof. Dr. Wolfram Bauer
Prof. Dr. Joachim Escher
Prof. Dr. Elmar Schrohe
Prof. Dr. Christoph Walker
Prof. Dr. E. Wiedemann