

On the computation of singularity exponents

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In this talk we give an introduction to boundary value problems with singular behaviour of the solution. Singularities occur, for example, near concave corners in the domain, at points of changing boundary conditions or when the differential operator is discontinuous. In three-dimensional domains, we have to distinguish in addition between edge and corner singularities and interacting edge and corner singularities. We present strategies for the computation of the singularities near two- or three-dimensional corners and discuss the convergence behaviour of the Finite Element Method.

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