数学与系统科学研究院

计算数学所学术报告

(博士后定期学术报告)

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报告题目：

Integral Method for Smooth Contact Problem of Bonded Plane Material with Cracks

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　　　　　　下午 4:00—5:00

报告地点：　科技综合楼三层 311

　　　　　　计算数学所报告厅

Abstract：

In this paper, the contact problem of a

bonded plane materials with a set of curvilinear cracks under action of a frictionless rigid punch is solved by using the complex variable technique. Kolosov–Muskhelishvili complex potentials are constructed as integral representations with the Cauchy kernels with respect to derivatives of displacement discontinuities along the crack contours and pressure under the punch. The contact of crack faces is considered. As a result, the considered problem has been transformed to a system of complex Cauchy type singular integral equations of first and second kind. An algorithm that is based on using the method of quadratures and an iterative procedure has been proposed to find solution of these equations. Thus, numerical results for the bonded plane materials with horizontal crack under the frictionless flat punch are obtained.

欢迎大家参加！