אפקה המכללה האקדמית להנדסה בתל-אביב
הנדסה גבוהה

סמינר מדעי היסוד
יום ראשון 1.11.2015 בשעה 15:00-15:50 בפיקוס 205

ד"ר מיכאל מדבינסקי

High-Order Numerical Methods for Elliptic Interface Problems

Abstract

In the talk we consider elliptic equations with piecewise smooth coefficients in irregular domains separated by arbitrary shaped interfaces. Our numerical approach for these problems is based on generalized Calderon's operators and the Difference Potentials Method.

The developed algorithm easily handles curvilinear boundaries, variable coefficients and general boundary conditions. High-order accuracy is achieved efficiently since only simple Cartesian grids used regardless of the interface shape or boundary. The performance of the numerical method is illustrated in several numerical examples in 2D.

מתאמים: פרופ' י. גולדמן, ד"ר ש. מיברג, פרופ' י. סטאנצ'סקו
ופרופ' ד. פישלוב