数学与系统科学研究院学术报告

报告题目：Recent Advances in the Error Estimates for the Numerical Approximation of Elliptic Control Problems

报 告 人：Professor Eduardo Casas Rentería (Universidad de Cantabria, Spain).

时间地点：2007 年 6 月 6 日上午 11：00—12：00，思源楼 703

摘要：

In this talk I consider the numerical approximation of optimal control problems governed by elliptic semilinear partial differential equations. I will analyze distributed and (Neumann and Dirichlet) boundary control problems. I discretize the control problems by using finite elements and I compare the continuous and discrete local solutions, providing error estimates. For the case of distributed or Neumann controls the discretization is done by using piecewise constant or alternatively piecewise linear continuous controls. The second approach improves a little bit the error estimate. In the case of Dirichlet controls thduardoe natural approach is the use of piecewise linear continuous controls. Finally the case of state constraints and the control of Navier-Stokes equations will be considered.

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