THE HONG KONG POLYTECHNIC UNIVERSITY
香港理工大學

DEPARTMENT OF APPLIED MATHEMATICS
應 用 數 學 系

The Hong Kong Polytechnic University
Department of Applied Mathematics

Colloquium

Error estimates for nonconforming and discontinuous discretizations of nonsmooth problems via convex duality

By

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Abstract

Various modern applications including image processing and fracture modeling require the use of nondifferentiable functionals. Their numerical solution by standard finite element methods leads to suboptimal convergence rates. The talk discusses the use of nonconforming and discontinuous finite element methods and provides quasi optimal error estimates. These are obtained by using appropriate discrete convex duality relations and identifying suitable regularity conditions. The techniques apply to a large class of convex minimization problems and lead to a postprocessing formula that provides the solution of the discrete dual problem via the nonconforming solution of the discrete primal problem.

Date : 11 November, 2020 (Wednesday)
Time : 16:00 -17:00 (Hong Kong Standard Time GMT +8)
Venue : Online Talk via Zoom(Meeting ID: 913 9112 9752)
Speaker: Host: Dr. Li Buyang, The Hong Kong Polytechnic University
Click to join : https://polyu.zoom.us/j/91391129752

Click to join (Zoom)

*** * * ALL ARE WELCOME * * ***

For enrolment, please send your name and email to chingching.lu@polyu.edu.hk on or before 10 Nov 2020