

國立交通大學應用數學系

演講公告

主講人：Prof. Richard Tsai (UT-Austin, USA)

講題：Volumetric Variational Problems for a Class of Partial Differential
Equations on Surfaces

時間：105 年 12 月 23 日(星期五) 上午 10:30

地點：(光復校區) 科學一館 223 室

Abstract

Partial differential equations on surfaces are important for many areas, such as materials science, fluid dynamics, and biology. The computation of such problems can be costly and difficult when the surface has complicated structures. Our aim is to develop a new formulation which bypasses the need of parametrization of surfaces and which allows for a wide variety of numerical methods to be implemented.

We consider surface PDEs which can be derived from variational principles defined on the surfaces.

We introduce volumetric variational problems for solving such PDE's in a thin narrowband around the surfaces. We start with variational problems on surfaces and change them into volumetric variational problems in an Eulerian formulation. We shall discuss the both elliptic and hyperbolic problems. Some numerical experiments are presented in the talk.

敬請公告 歡迎參加

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