國立陽明交通大學應用數學系
學術演講公告

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講　題：Numerical Methods for Partial Differential Equations on Surfaces

時　間：113 年 3 月 5 日(星期二) 下午 14:00 –15:00

地　點：(光復校區) 科學一館 223 室

Abstract

We will present recent numerical methods for solving partial differential equations on surfaces. In the first part of the talk, we will introduce a simple discretization called the Modified Virtual Grid Difference (MVGD), which allows for the numerical approximation of the Laplace-Beltrami operator on manifolds sampled by point clouds. In the second part, we will present a diffeomorphic embedding method that has been recently developed for computing differential equations on implicit surfaces. This embedding equation is based on a push-forward operator, which can extend any tangential flux vectors from the surface to a neighboring level surface. The computation of this operator is straightforward and only requires the level set function and the corresponding Hessian. We will provide examples from scalar hyperbolic conservation laws and eigenproblems of the Laplace-Beltrami operators.

敬請公告　歡迎參加

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