

# 國立陽明交通大學應用數學系

## 學術演講公告

主講人：Prof. Dariuske Kawagoe 川越大輔 (Kyoto University)  
講題：On strong convergence of an elliptic regularization with the  
Neumann boundary condition applied to a boundary  
value problem of a stationary advection equation  
時間：111 年 9 月 20 日(星期二) 下午 2:00 –3:00  
地點：(光復校區) 科學一館 223 室

### Abstract

We consider a boundary value problem of a stationary advection equation with the homogeneous inflow boundary condition in a bounded domain with Lipschitz boundary, and consider its perturbation with respect to the Laplacian with a small positive parameter  $\epsilon$ . In this talk we show  $L^2$  strong convergence of the perturbed solutions to the original solution in the domain and on a part of the boundary as the parameter  $\epsilon$  tends to 0, and discuss its convergence rates assuming that the original solution has  $H^1$  or  $H^2$  regularity. A key observation is that the convergence rate depends not only on the regularity of the original solution but also on a relation between the boundary and the advection vector field. This talk is based on a joint work with Masaki Imagawa.

敬請公告 歡迎參加

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