

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：The DiPerna-Majda 2D Gap Problem

時 間：113 年 10 月 15 日(星期二) 下午 14:00 –15:00

地 點：(光復校區) 科學一館 213 室

Abstract

In a series of influential papers in the 1980s, DiPerna and Majda introduced a rigorous framework of approximate solutions of the Euler equations and proved several results concerning concentration of solutions related to hypothesis on $\omega := \operatorname{curl} u : \mathbb{R}^2 \times [0, T] \rightarrow \mathbb{R}$ the *vorticity* and $\omega_0 := \operatorname{curl} u_0 : \mathbb{R}^2 \rightarrow \mathbb{R}$ the *initial vorticity*. Briefly, they proved that for vorticities bounded in an α log-Morrey space one does not have any concentration for $\alpha > 1$, while for $\alpha \leq 1/2$ one may have *concentration-cancellation*. The interval $\alpha \in (1/2, 1]$ remained an open question in their paper and subsequent papers, whether one can rule out concentration or find sequences which admit concentration-cancellation. In this talk I discuss a recent result in collaboration with Oscar Dominguez in which we resolve this question, closing the gap, showing in particular that one may have concentration-cancellation up to $\alpha = 1$.

敬請公告 歡迎參加

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