

# 國立中山大學應用數學系

## 學術演講

講者：蔡政江（中研院數學所）

講題：p-adic groups, wave-front sets, and arithmetic geometry over a finite field

時間：2023/05/25（Thursday）14:40 ~ 15:30

地點：理 SC 4009-0 教室

茶會：13:30

### Abstract

Wave-front set is a notion in microlocal analysis that characterizes the singularities of generalized functions, which arise for example from the study of differential equations. This notion is applied to Lie groups and generalized to p-adic (reductive) groups, in which case it describes the blow-up behavior near the identity of the group of the character of a representation. Meanwhile, modular forms and their generalized counterparts, automorphic forms, admit actions of p-adic groups.

A 1987 theorem by Mœglin-Waldspurger showed that the wave-front set imposes a necessary condition for the existence of possible generalizations of Fourier expansions. Since then, there has been a long-standing conjecture regarding the wave-front set for a representation of a p-adic group, proposing that its Zariski closure is irreducible. In this talk, we will briefly explain how we disprove this conjecture by reducing the problem to solving equations over a finite field. (No experience with microlocal analysis, p-adic groups or modular forms will be assumed.)

敬請公告！歡迎參加！

應用數學系：<http://math.nsysu.edu.tw>

校園地圖：[http://math.nsysu.edu.tw/var/file/183/1183/img/779/nsysu\\_math\\_map.jpg](http://math.nsysu.edu.tw/var/file/183/1183/img/779/nsysu_math_map.jpg)

交通資訊：<https://www.nsysu.edu.tw/p/412-1000-4132.php?Lang=zh-tw>



應用數學系



校園地圖



交通資訊