



复旦大学数学科学学院 数学综合报告会

报告题目: Projective Spectrum, Self-similarity, and Complex Dynamics (I)

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时间: 2020-08-17 星期一 21:00-22:00

地点: ZOOM 会议 ID: 64407003180, 密码: 249212

报告摘要:

Finitely generated structures are important subjects of study in various mathematical disciplines. Examples include finitely generated groups, Lie algebras and C^* -algebras, etc. It is thus a fundamental question whether there exists a universal mechanism in the study of these vastly different entities. In 2009, the notion of projective spectrum for several elements (A_1, \dots, A_n) in a unital Banach algebra B was defined through the multiparameter pencil $A(z) = z_1 A_1 + \dots + z_n A_n; z \in \mathbb{C}^n$. This conspicuously simple definition turned out to have a surprisingly rich content. The first talk briefly reviews some recent results on projective spectrum and the second talk focuses on its connection with self-similar group representations and the notion of Julia set in complex dynamics. Some details of the proof will be given, and an application of the result to the group of intermediate growth will be mentioned as well.

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