



复旦大学数学科学学院 数学综合报告会

报告题目: The Bergman-CZO estimates for Shimorin-type integral operators

报告人: 王子鹏 副教授 (重庆大学)

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报告摘要:

A Shimorin-type operator is an integral operator on the unit disk which originates from Shimorin's work on Bergman-type kernel representations for logarithmically subharmonic weighted Bergman spaces.

In this talk, we study Bergman-CZO estimates for Shimorin-type integral operators. Unlike classical Bergman-type operators, the critical line on the $(1/p, 1/q)$ -plane that separates the boundedness and unboundedness regions is not immediately evident. Moreover, even along this line, new phenomena arise. By introducing a quantity, we first determine the critical boundary in the $(1/p, 1/q)$ -plane for boundedness; furthermore, on this critical line, we establish necessary and sufficient conditions for the operator which have standard Bergman-CZO estimates, meaning that it is bounded in the interior of the region and admits weak-type and BMO-type estimates at endpoints. This talk is based on a joint work with Yuerang Li(Chongqing) and Kenan Zhang(Shanghai).

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