哈爾濱工業大學 数学研究院
Institute for Advanced Study in Mathematics of HIT

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Maximal Orlicz type interpolation in von Neumann algebras

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Abstract

The strong maximal function is a well known object in classical harmonic analysis, its study dating back to the work of Jessen, Marcinkiewicz and Zygmund in the 30s. It was proven by Cordoba and Feffermann that, in two variables, the strong maximal function is of weak Orlicz type (Φ, Φ), where $\Phi(s) = s \log s$. In this talk we will discuss a matrix analogue of the strong maximal function whose optimal weak Orlicz type is not yet known. In previous work with Jose Conde and Javier Parcet, we proved that such a matrix maximal operator is of weak Orlicz type $s \log^{2+\varepsilon} s$, for every $\varepsilon > 0$. In this talk we will present a recent result that implies that weak Orlicz type can not be improved below $O(s \log^2 s)$. This is built on recent results of Léonard Cadilhac and Éric Ricard and it is joint work with Javier Parcet and Jorge Pérez García.

Time: Friday, August 15, 2025, 10:00-11:00 (UTC+8)

Venue: Zheng Xin Building, Room 24

More information:
https://im.hit.edu.cn/2025/0518/c8386a370276/page.htm