Liu Bie Ju Centre for Mathematical Sciences
City University of Hong Kong

Mathematical Analysis and its Applications Colloquium

Lebesgue points of two-dimensional functions and summability

by

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Date : 20 September, 2019 (Friday)
Time : 3:00 pm to 4:00 pm
Venue : Room P7510, 7/F, Purple Zone
Yeung Kin Man Academic Building (YEUNG)
City University of Hong Kong

ABSTRACT:

Several types of a general summability method of two-dimensional Fourier transforms are investigated with the help of an integrable function θ. Some special cases of the θ-summation are considered, such as the rectangular, triangular, circular and cubic summability and the Weierstrass, Abel, Picard, Bessel, Fejér, de La Vallée-Poussin, Rogosinski and Riesz summations. We introduce the concept of different Lebesgue points and show that almost every point is a Lebesgue point of f from the Wiener amalgam space $W(L_1, \ell_\infty)(\mathbb{R}^2)$. We give several generalizations of the well known Lebesgue's theorem for the summability of two-dimensional Fourier transforms. More exactly, under some conditions on θ. we show that the different types of summability means of a function $f \in W(L_1, \ell_\infty)(\mathbb{R}^2) \supset L_1(\mathbb{R}^2)$ converge to f at each Lebesgue point.

Please come and join us!

** **All interested are welcome** **

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