九大代数学セミナー

日時 2024 年 2 月 19 日 (月) 16:00-17:00

場所 九州大学伊都キャンパス ウエスト 1 号館 5 階 C-513 中講義室,
および Zoom ミーティングによるオンライン開催

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講演者 Asif Zaman 氏 (University of Toronto)

題目 **An approximate form of Artin's holomorphy conjecture and nonvanishing of Artin L-functions**

概要 Artin L-functions are associated to irreducible non-trivial characters of the Galois group of a normal extension of number fields. Conjecturally, Artin L-functions are holomorphic and non-vanishing except on the critical line. Together with Robert Lemke Oliver and Jesse Thorner, we unconditionally prove for many families of Artin L-functions, all except few of them are holomorphic and non-vanishing in a wide region. The number of exceptions is quantified in terms of a field counting problem which, in many cases of interest, is provably small. This has applications to extremal class numbers, counting prime ideals in degree n S_n-extensions, and the subconvexity problem for Dedekind zeta functions. I will outline the main result, some applications, and key obstacles in the proof.

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