

九大代数学セミナー

日時 2022年10月18日(金) 17:00-18:00

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: Daniel Fiorilli 氏 (Université Paris-Saclay)

題目 “**Extending the unconditional support in an Iwaniec–Luo–Sarnak family**”

概要 This is joint work with Lucile Devin and Anders Södergren. In the work of Iwaniec, Luo and Sarnak, the Katz-Sarnak prediction for the one-level density has been confirmed in several families of holomorphic cusp form L -functions for certain test functions. In the family of newforms of fixed even weight and squarefree level tending to infinity, Iwaniec, Luo and Sarnak proved this prediction unconditionally when the support of the Fourier transform of the implied test function is contained in the interval $(-3/2, 3/2)$, and under GRH in the extended interval $(-2, 2)$. In this talk I will discuss how one can extend the unconditional admissible support to the interval $(-1.866\dots, 1.866\dots)$ for a weighted version of the one-level density when the level grows to infinity through prime values. The main new tool in our analysis is the use of zero-density estimates for Dirichlet L -functions.

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