九大代数学セミナー

日時 2024 年 10 月 25 日 (金) 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 山口 永悟 氏 (東京工業大学)

題目 **Anabelian geometry and m-step solvable reconstruction**

概要 In Anabelian geometry, we have an important conjecture by A. Grothendieck, which states that the geometric properties of (algebraic) hyperbolic curves can be determined group-theoretically by studying their arithmetic fundamental groups. H. Nakamura, A. Tamagawa, and S. Mochizuki proved this conjecture for finitely generated fields over $\mathbb{Q}$. This talk focuses on one of the remaining problems related to this conjecture, called the m-step solvable Grothendieck conjecture, which concerns the group-theoretical reconstruction of geometric properties of hyperbolic curves by the maximal geometrically $m(\geq 2)$-step solvable quotient of their arithmetic fundamental groups. This talk will explain the m-step solvable Grothendieck conjecture and a part of its proof as obtained by the speaker, focusing on the case where $g = 0$.

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