数論セミナー

2022 年 4 月 8 日 金曜日 16:40-　Zoom 開催: Hyblid 予定

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タイトル: Topological properties and algebraic independence of sets of prime-representing constants

アブストラクト:
Let (c_k) be a sequence of positive integers satisfying certain conditions. Let $W(c_k)$ be the set of $A>1$ such that the integer parts of $A^{c_1},...,A^{c_k}$ are prime numbers for all positive k. In this talk, we firstly discuss topological properties of $W(c_k)$. We reveal that $W(c_k)$ is non-empty, totally disconnected, and perfect. We secondly discuss the algebraic independence of a certain subset of $W(c_k)$. As a result, we give an algebraically independent subset of $W(c_k)$ if c_k is rapidly increasing. As a corollary, we disclose that the minimum of $W(c_k)$ is transcendental. This research is joint work with Wataru Takeda in Tokyo University of Science.

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