九大代数学セミナー

※「通常と日時が異なります」

日時 2025 年 10 月 24 日 (金) 16:30-17:30

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

* * *

講演者 Driss Essouabri 氏 (Jean Monnet University / Institut Camille Jordan)

題目 **An overview of some connections between the geometry of arithmetic sets and the properties of their zeta functions**

概要 Let A be a discrete subset of $\mathbb{R}^n$. For example, set A may be a subset of $\mathbb{Z}^n$, defined by certain arithmetic or geometric constraints. Alternatively, it may be an open set of an algebraic variety, a discrete fractal, and so on. Let $\|\|\|$ be a norm or pseudo-norm of $\mathbb{R}^n$. The zeta function associated with A (and the norm $\|\|\|$) is formally defined as follows: $\zeta_A(s) := \sum_{x \in A; x \neq 0} \|x\|^{-s}$ ($s \in \mathbb{C}$). The existence and properties of the meromorphic continuation of $\zeta_A(s)$ depend on the nature of the arithmetic set A and the pseudo-norm $\|\|\|$. In this talk, I will outline some general methods wich enable to study zeta functions associated to certain classes of aithmetical sets of very different natures. Several arithmetic and geometric properties of A can be covered indirectly from the analytical properties of ζ_A via Taubelian arguments. I will also present a multivariable Tauberian theorem that can be useful when only little information is available about ζ_A. Finally, I will introduce the concept of zeta-correlation between two arithmetic sets and illustrate it with examples.

* * *

世話人：小林 真一, 中村 健太郎, Ade Irma Suriajaya, 松坂 俊輝, 埴原 紀宏 (九大数理)