

代数特別セミナー

本セミナーは大学院科目「数学フロンティア」対象セミナーです

日時：2019年5月20日（月曜）16：40 ～17：20

場所：自然科学系棟 D814

講演者：Pieter Allaart (University of North Texas)

講演題目：On univoque and strongly univoque sets

For a number $\beta \in (1, 2)$, the *univoque set* U_β is the set of numbers which have exactly one expansion in base β . It has been well studied in the literature, and can be viewed as the set of points whose orbits avoid the hole in an open dynamical system. In 2011, Jordan, Shmerkin and Solomyak introduced a subset U'_β of the univoque set which we'll call the *strongly univoque set*, and used it to study the multifractal spectrum of Bernoulli convolutions. In this talk we will see another, rather unexpected, application of the strongly univoque set, to the infinite derivatives of Okamoto's self-affine function. We show that U_β and U'_β have the same Hausdorff dimension, and characterize the Hausdorff dimension of the difference $W_\beta = U_\beta \setminus U'_\beta$.

日時：2019年5月20日（月曜）17：30 ～18：10

場所：自然科学系棟 D814

講演者：Kiko Kawamura (University of North Texas)

講演題目：Revolving Fractals

Davis and Knuth in 1970 introduced the notion of revolving sequences, as representations of a Gaussian integer. Later, Mizutani and Ito pointed out a close relationship between a set of points determined by all revolving sequences and a self-similar set, which is called the Dragon from the viewpoint of symbolic dynamical systems. We will show how their result can be generalized by a completely different approach. The talk will be presented with a lot of pictures; accessible for graduate students. A few open problems will be introduced as well. This is a joint work with Drew Allen (UNT).

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