

東京理科大学

## 特異点・トポロジーセミナーのお知らせ

以下の予定で、特異点・トポロジーセミナーを開催いたします。若手研究者の積極的な参加を歓迎いたします。奮ってご参加ください。

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日時：11月28日（木），16:00～17:00

部屋：神楽坂キャンパス，7号館5階，751 セミナー室

題目：A construction of families of pseudo-Anosov braids with small dilatations

### アブストラクト

We consider the mapping class group  $\text{Mod}(D_n)$  on the  $n$ -punctured disk  $D_n$ . We focus on pseudo-Anosov elements in  $\text{Mod}(D_n)$ . Each pseudo-Anosov mapping class is equipped with some constant  $> 1$  called the dilatation. The logarithm of the dilatation is called the entropy of the pseudo-Anosov. Since a mapping class in  $\text{Mod}(D_n)$  is represented by an  $n$ -braid, it makes sense to talk about pseudo-Anosov braids and their dilatations, entropies. Let  $d_n$  be the minimal dilatation of pseudo-Anosov  $n$ -braids. It is known by Hironaka-Kin that the minimal entropy  $\log(d_n)$  behaves like  $1/n$ .

We first introduce a family of pseudo-Anosov  $n$ -braids with the smallest known dilatations. By a joint work with M. Takasawa, we show that this family is coming from the fibrations on the magic 3-manifold. We also explain a construction of the family of pseudo-Anosov braids. Then we introduce a modification of the construction. This gives us a general method to construct families of pseudo-Anosov braids with small dilatations.

The second part of the talk is based on the joint work with S. Hirose. As an application of the previous method, we consider the minimal dilatation  $h_g$  of pseudo-Anosov elements in the hyperelliptic handlebody mapping class group on the closed surface of genus  $g$ . We prove that the asymptotic behavior of the minimal entropies  $\log(h_g)$  behaves like  $1/g$ .

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