

## Algebraic degrees of stretch factors of pseudo-Anosov maps

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An important aspect of the theory of pseudo-Anosov mapping classes concerns the study of the stretch factor  $\lambda(f)$  of a pseudo-Anosov mapping class  $f$ . This is a bi-Perron algebraic integer of degree bounded above by  $6g-6$  which is the dimension of the Teichmüller space for the underlying surface. The question of realising any bi-Perron algebraic integer as a stretch factor is a major challenge in the theory. Thurston, in his paper explaining his famous construction of products of multitwists (popularized by a talk of John Hubbard after a bouillabaisse at CIRM) claimed, without proof, that the pseudo-Anosov maps obtained by this construction show that the bound  $6g-6$  is sharp.

I will explain how to justify this claim and show that every even degree between 2 and  $6g-6$  arises as the stretch factor degree of a pseudo-Anosov mapping class in the Torelli group.

**Orateur:** LANNEAU, Erwan (Institut Fourier)