SwissMAP
The Mathematics of Physics
National Centre of Competence in Research

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4-manifolds with boundary and fundamental group Z

Thursday 30 June 2022 11:00 (1 hour)

In this talk I will discuss a classification of topological 4-manifolds with boundary and fundamental group Z, under some mild assumptions on the boundary. I will apply this classification classify surfaces in simply-connected 4-manifolds with 3-sphere boundary, where the fundamental group on the surface complement is Z. I will also compare these homeomorphism classifications with the smooth setting, showing for example that every appropriate form can be realized as the equivariant intersection form of a pair of exotic smooth 4-manifolds with boundary and fundamental group Z, and that every smooth 2-handlebody with 3-sphere boundary contains a pair of exotic surfaces. This is joint work with Anthony Conway and Mark Powell.

Presenter: PICCIRILLO, Lisa