Contribution ID: **6** Type: **not specified**

Coherent Systems on Surfaces

Friday, 10 October 2025 15:00 (1 hour)

Let X be a smooth, irreducible, projective surface. A coherent system on X is a pair (E, V) where E is a coherent sheaf on X and V is a finite-dimensional vector space. Associated to coherent systems there is a notion of stability that depends on a parameter $\alpha \in \mathbb{Q}[m]$. In this talk, we describe the moduli space of coherent systems for $\alpha \gg 0$, present topological and geometric properties of this moduli space, and describe the structure of chambers and walls for coherent systems on the projective plane when $\dim(V) = 2$.
This is joint work with L. Costa, I. Macías-Tarrío, and a joint work with O. Mata-Gutiérrez, and H. Torres-López.

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