

Nontrivial tori in spaces of symplectic embeddings

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The problem of when one can embed one symplectic manifold into another has produced beautiful surprising results even when the spaces in question are relatively simple. Gromov's nonsqueezing theorem and McDuff's result about the connectivity of the space of symplectic embeddings between 4-dimensional symplectic ellipsoids are just two examples of this phenomenon. In this talk, we will tackle the study of the fundamental group of spaces of symplectic embeddings and show how certain contractible loops of unitary transformations become noncontractible when restricted as loops of symplectic embeddings between certain symplectic ellipsoids. Moreover, we will introduce recent work (joint with Julian Chaidez) showing that certain n -torus families of symplectic embeddings between $2n$ -dimensional ellipsoids become homologically nontrivial if certain inequalities involving symplectic invariants hold.