

Symplectic embeddings of 4-dimensional ellipsoids and Farey numbers

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I will explain why the problem of symplectically embedding one 4-dimensional ellipsoid into another is equivalent to the problem of embedding a certain disjoint union of balls into another ball. (The basic idea is to desingularize the weighted projective plane that is obtained from the ellipsoid by collapsing its boundary along the characteristic flow.) The ball embedding problem is in principle solved; I will discuss some explicit examples. I hope also to be able to explain how one can use the same idea to construct symplectomorphisms of weighted projective planes, and hence construct some new 6-dimensional Hamiltonian S^1 -manifolds.

1:00 p.m.
Math 520
Columbia University