Symplectomorphism groups of some 4-manifolds

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Resumo: "By symplectic topology, I mean the discipline having the same relation to ordinary topology as the theory of Hamiltonian dynamical systems has to the general theory of dynamical systems." [4]

When we talk about Hamiltonian dynamical systems,"the good generalization of 'preserving the area' is not 'preserving the volume'."[5] With this motto, we are interested in symplectomorphisms, ie diffeomorphisms on manifolds which preserve the symplectic structure. As a matter of fact, by Gromov [6, 7], we should expect that the group of symplectomorphisms of a manifold to be much smaller than the group of volume-preserving diffeomorphisms.

In this talk I will explain, in addition to the basics of symplectic geometry, a method (also introduced by Gromov [6] and developed later by others such as [1, 2, 3]) to describe the symplectomorphism groups of four-dimensional symplectic manifolds.

palavras-chave: Geometria Simplética.

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