

Periodic maps on simply connected 4-manifolds

Semra PAMUK

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Abstract

It is well known that simply connected closed 4-manifolds are classified in terms of intersection pairing and the Kirby-Siebenman invariant. In the non-simply connected case, since the fundamental group acts freely on the universal cover, classification of these concerns the topological classification of free periodic maps on simply connected 4-manifolds. In general, a periodic map is allowed to have fixed points or periodic points of period smaller than the map period. When this happens the quotient space has singularities, which is an orbifold. In the case of isolated singularities one can still classify periodic maps by some invariants associated to this orbifold. The aim of this talk is to give some overview of the homotopy types of pseudofree actions and to present the above mentioned invariants in the orbit category setting. This is an ongoing work with M.Pamuk.