

The isomorphism problem for closed linkage spaces

Dirk Schuetz, Durham University

We consider the moduli spaces of closed linkage spaces in euclidean d -dimensional space obtained by taking the quotient with the orthogonal group. For $d > 2$ these spaces are no longer manifolds generically, but they have the structure of a pseudomanifold. They may also be non-orientable. We use intersection homology with mod 2 coefficients to obtain a Walker-conjecture-style theorem which distinguishes homeomorphism types of a large class of linkages. This approach can also be used to give a unified proof for the case where only rotations are used in the quotient.