

1152-55-54

**Andres Angel** and **Hellen Colman\*** (hcolman@ccc.edu), Wright College, 4300 N. Narragansett Avenue, Chicago, IL 60634, and **Mark Grant** and **John Oprea**. *Morita Invariance of Invariant Topological Complexity*.

Orbifolds may be described as global quotients of spaces by compact group actions with finite isotropy groups. The same orbifold may have descriptions involving different spaces and different groups. We say that two actions are Morita equivalent if they define the same orbifold.

We use the homotopy invariance of equivariant principal bundles to prove that the equivariant  $\mathcal{A}$ -category of Clapp and Puppe is invariant under Morita equivalence. As a corollary, we obtain that both the equivariant Lusternik-Schnirelmann category of a group action and the invariant topological complexity are invariant under Morita equivalence. This allows a definition of topological complexity for orbifolds. (Received August 14, 2019)