

Kozłowski, A.; Yamaguchi, K.

The homotopy type of spaces of rational curves on a toric variety. (English) Zbl 06963141
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Summary: Spaces of holomorphic maps from the Riemann sphere to various complex manifolds have played an important role in several areas of mathematics (e.g. linear control theory and mathematical physics ([2], [3])). G. Segal [22] investigated the homotopy type of spaces of holomorphic maps on complex projective spaces and M. Guest [10] generalized Segal's result for compact smooth toric varieties. Recently Mostovoy-Villanueva [20] improved the homology stability dimension obtained by Guest. In this paper we generalize their result [20] for certain non-compact smooth toric varieties by the careful analysis of toric varieties with the scanning maps.

MSC:

- 55P10 Homotopy equivalences in algebraic topology
- 55R80 Discriminantal varieties and configuration spaces in algebraic topology
- 55P35 Loop spaces
- 14M25 Toric varieties, Newton polyhedra, Okounkov bodies

Keywords:

polyhedral product; fan; toric variety; primitive generator; holomorphic map; homotopy equivalence; Vassiliev spectral sequence

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