

Yamaguchi, Kohhei

Universal coverings of spaces of holomorphic maps. (English) Zbl 1041.55005
Kyushu J. Math. 56, No. 2, 381-389 (2002).

Let Hol_d denote the space of all holomorphic self-maps of the Riemann sphere of degree d . Let Hol_d^* denote the subspace consisting of basepoint-preserving maps. Let $\widetilde{\text{Hol}}_d$ and $\widetilde{\text{Hol}}_d^*$ denote their universal covers. The main result is that there is a homotopy equivalence $\widetilde{\text{Hol}}_d \simeq \widetilde{\text{Hol}}_d^* \times S^3$. Combined with known results $\pi_1(\text{Hol}_d) = \mathbb{Z}/2d$, $\pi_1(\text{Hol}_d^*) = \mathbb{Z}$, and $\text{Hol}_d^* \rightarrow \Omega_d^2 S^2$ a homotopy equivalence up to dimension d , this yields information about Hol_d .

Reviewer: [Donald M. Davis](#) (Bethlehem)

MSC:

55P15 Classification of homotopy type
58D15 Manifolds of mappings
32C18 Topology of analytic spaces

Cited in **2** Reviews
Cited in **2** Documents

Keywords:

holomorphic self-maps of the Riemann sphere; homotopy equivalence

Full Text: [DOI](#)