MIRRORS ON HURWITZ SURFACES

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Abstract

A compact Riemann surface X is called symmetric if it admits an anti-conformal involution $\sigma\colon X \to X$, which is called a symmetry of X. The fixed-point set of σ consists of disjoint simple closed geodesics on X, which are called the mirrors of σ. Let $g > 1$ be a positive integer and $\mu(g)$ be the maximum number of conformal automorphisms of all Riemann surfaces of genus g. Then it is known that $\mu(g) \leq 84(g-1)$. A Riemann surface of genus g admitting $84(g-1)$ conformal automorphisms is called a Hurwitz surface. In this study we find an upper bound for the number of mirrors on Hurwitz surfaces.

Keywords: Riemann surface, Hurwitz surface, Symmetry, Mirror

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