

Chirality of pseudo-Hurwitz maps with alternating or symmetric group

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Abstract

Pseudo-Hurwitz groups are finite smooth quotients of the group Ψ with presentation $\langle A, Z \mid A^2 = Z^3 = (AZAZ^{-1})^4 = 1 \rangle$. Any pseudo-Hurwitz group G gives rise to a pseudo-Hurwitz map $(G; a, z)$, where $G = \Psi/N$, $a = AN$ and $z = ZN$ for some (finite index and torsion-free) normal subgroup N of Ψ . A pseudo-Hurwitz map $(G; a, z)$ is called reflexible if there is an automorphism of G fixing the involution a and sending z to z^{-1} ; otherwise $(G; a, z)$ is called chiral.

In this talk we show that, for sufficiently large n there are reflexible and chiral pseudo-Hurwitz maps $(G; a, z)$, where G is the alternating group of degree n , as well as there are reflexible and chiral pseudo-Hurwitz maps $(G; a, z)$, where G is the symmetric group of degree n .