

## **Automorphisms of surfaces of general type with $q = 1$ acting trivially in cohomology**

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**Abstract.** Let  $S$  be a complex minimal surface of general type with irregularity  $q(S) = 1$  and  $\text{Aut}_0(S) \subset \text{Aut}(S)$  the subgroup of automorphisms acting trivially on  $H^*(S, \mathbb{Q})$ . In this paper we show that  $|\text{Aut}_0(S)| \leq 4$ , and if the equality holds then  $S$  is a surface isogenous to a product of unmixed type. Moreover, examples of surfaces with  $|\text{Aut}_0(S)| = 4$  and all possible values of the geometric genus  $p_g(S)$  are provided.

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