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**Seiya Negami\*** (negami@ynu.ac.jp). *Distinguishing coloring of 3-regular graphs on closed surfaces.*

A coloring of a graph  $G$  is said to be distinguishing under a subgroup  $A$  in  $\text{Aut}(G)$  if any automorphism in  $A$  other than the identity map does not preserve the colors. We shall show that a 3-regular 3-connected graph 2-cell embedded on a closed surface has a 4-coloring which is distinguishing under its map automorphism group and uses color 4 only once unless it is one of few exceptions, and present our approach to showing that any “sufficiently large” 3-regular graph on closed surface has a 3-coloring which is distinguishing under its map automorphism group. (Received September 16, 2013)