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**Seiya Negami\*** (negami@ynu.ac.jp). *The distinguishing chromatic numbers of graphs on surfaces.*

A coloring of a graph  $G$  is said to be *distinguishing* if there is no automorphism of  $G$ , except the identity map, preserving the colors given by the coloring. The minimum number of colors we need to construct a distinguishing coloring of  $G$  is called the *distinguishing chromatic number* of  $G$  and is denoted by  $\chi_D(G)$ . We shall show a general theory to estimate an upper bound for the distinguishing chromatic numbers of graphs embedded on a closed surface, as an application of re-embedding theory for triangulations, which leads to a linear upper bound for those of triangulations with respect to the genus of surfaces. In addition, we shall present some concrete results on graphs embedded on the sphere, the projective plane and the torus. (Received September 12, 2011)