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**Lianzhu Zhang, Weifan Wang and Ko-Wei Lih\*** (makwlih@sinica.edu.tw), P.O. Box 23-216 Taipei, Taipei City, 10699, Taiwan. *An improved upper bound on the adjacent vertex distinguishing chromatic index of a graph.*

An adjacent vertex distinguishing coloring of a graph  $G$  is a proper edge coloring of  $G$  such that any pair of adjacent vertices are incident with distinct sets of colors. The minimum number of colors needed for an adjacent vertex distinguishing coloring of  $G$  is denoted by  $\chi'_a(G)$ . In this paper, we prove that  $\chi'_a(G) \leq \frac{5}{2}(\Delta + 2)$  for any graph  $G$  having maximum degree  $\Delta$  and no isolated edges. This improves a result in [S. Akbari, H. Bidkhori, N. Nosrati,  $r$ -Strong edge colorings of graphs, Discrete Math. 306 (2006), 3005-3010], which states that  $\chi'_a(G) \leq 3\Delta$  for any graph  $G$  without isolated edges. (Received August 11, 2012)