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Minfang Huang, Michael Santana and **Gexin Yu***, Department of Mathematics, College of William and Mary, Williamsburg, VA. *Strong chromatic index of graphs with maximum degree four*. Preliminary report.

A strong edge-coloring of a graph G is a proper edge-coloring such that each color class forms an induced matching. The strong chromatic index is the minimum number of colors that allow G to have a strong edge-coloring. In this paper, we show that the strong chromatic index of a graph with maximum degree 4 is at most 21, which improves the previous 22 by Cranston (2006), and 1 away from the conjectured 20 by Erdős and Nešetřil (1987). (Received January 11, 2017)