1105-05-89 **A.V. Kostochka**, **X. Li**, **W. Ruksasakchai**, **M. Santana*** (santana@illinois.edu), **T. Wang** and **G. Yu**. *The strong chromatic index of subcubic planar graphs.*

A *strong edge-coloring* of a graph G is a proper edge-coloring with the additional property that each color class forms an induced matching in G. The *strong chromatic index* of G is the minimum k for which G has a strong edge-coloring using k colors. Erdős and Nešetřil conjectured that every graph with maximum degree Δ has strong chromatic index at most $\frac{5}{4}\Delta^2$, if Δ is even, and at most $\frac{5}{4}\Delta^2 - \frac{1}{2}\Delta + \frac{1}{4}$, if Δ is odd. If true, both cases are best possible. In 1990, Faudree, Gyárfás, Schelp, and Tuza revised this conjecture for planar graphs with maximum degree at most 3, stating that such graphs should have strong chromatic index at most 9. We verify this conjecture, which is best possible, and extend it to loopless multigraphs (Received September 08, 2014)