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Hemanshu Kaul* (kaul@iit.edu), Department of Applied Mathematics, Illinois Institute of Technology, Chicago, IL 60616, and **Jeffrey Mudrock**. *On the list chromatic number of the Cartesian product with a traceable graph*. Preliminary report.

Borowiecki, Jendrol, Kral, and Miskuf (2006) proved that the list chromatic number of the Cartesian product of two graphs can be bounded in terms of the list chromatic number and the coloring number of the factors, implying a bound exponential in the list chromatic number of the factors. They conjecture that the bound can be improved to a constant times the sum of the list chromatic numbers. With this in mind, we study the list coloring of the Cartesian product of a strong critical graph and a traceable graph (i.e. a graph containing a Hamilton path). We show families of graphs where our result improves upon known bounds for the list chromatic number. Strong critical graphs, a generalization of color criticality to list coloring introduced by Stiebitz, Tuza, and Voigt in 2008, include families of graphs such as odd cycles, complete graphs, Dirac graphs, and more. We also utilize a connection between choosability and unique list colorability discovered by Akbari, Mirrokni, and Sadjad in 2006. (Received February 23, 2016)