

1047-05-273

Maria Axenovich* (axenovic@iastate.edu), 412 Carver Hall, Department of Mathematics, Ames, IA 50011, and **JiHyeok Choi** and **Perry Iverson**. *On colorings avoiding both monochromatic and rainbow subgraphs.*

An edge-coloring of a graph is called (G, H) -good if it does not contain a monochromatic copy of G and it does not contain a rainbow (totally multicolored) copy of H . Except for a small class of graphs G, H , a (G, H) -good coloring of a complete graph exists. For such graphs we consider $\max R(n; G, H)$, the maximum number of colors in a (G, H) -good coloring of K_n . We determine the value of $\max R(n; G, H)$ for wide classes of graphs and formulate several open problems. One of such problems is to determine the largest number of colors used on the edges of K_n such that each copy of K_4 is neither monochromatic nor rainbow. (Received January 30, 2009)