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**Futaba Okamoto\*** (okamoto.futa@uwlax.edu), University of Wisconsin - La Crosse, Mathematics Dept., 1725 State St., La Crosse, WI 54601, and **Gary Chartrand** (gary.chartrand@wmich.edu) and **Ping Zhang** (ping.zhang@wmich.edu). *The Rainbow Index of a Graph.*

An edge-colored tree  $T$  is a rainbow tree if no two edges of  $T$  are colored the same. For a connected graph  $G$  of order  $n \geq 3$  and an integer  $k$  with  $2 \leq k \leq n$ , a  $k$ -rainbow coloring of  $G$  is an edge coloring having the property that for every set  $S$  of  $k$  vertices of  $G$ , there is a rainbow tree  $T$  containing the vertices of  $S$ . The minimum number of colors needed in a  $k$ -rainbow coloring of  $G$  is the  $k$ -rainbow index of  $G$ . This topic is discussed and some results are presented. (Received September 15, 2008)