1116-05-2003 **Charles Suer*** (suerchaj@gmail.com), 3800 Nicholasville Rd. #9612, Lexington, KY 40503.
Color blind index in graphs of very low degree.

Let $c : E(G) \to [k]$ be an edge-coloring of a graph G, not necessarily proper. For each vertex v, let $\overline{c}(v) = (a_1, \cdots, a_k)$, where a_i is the number of edges incident to v with color i. Reorder $\overline{c}(v)$ for every v in G in nonincreasing order to obtain $c^*(v)$, the color-blind partition of v. When c^* induces a proper vertex coloring, that is, $c^*(u) \neq c^*(v)$ for every edge uv in G, we say that c is color-blind distinguishing. The minimum k for which there exists a color-blind distinguishing edge coloring $c : E(G) \to [k]$ is the color-blind index of G, denoted $\mathrm{dal}(G)$. We present some previously known results and then demonstrate that determining the color-blind index is more subtle than previously thought. In particular, determining if $\mathrm{dal}(G) \leq 2$ is NP-complete. Time permitting, a connection to 2-colorable regular hypergraphs will be discussed. (Received September 21, 2015)