1135-05-1255 **Elizabeth Bailey Matson*** (eab0052@auburn.edu) and **Chris Rodger**. *Extreme Equitable Block-Colorings of K_v and $K_v - F$.*

An H-decomposition of a graph G is a partition P of $E(G)$ into blocks, each element of which induces a copy of H. An (s,p)-equitable H-coloring of G is a coloring of the blocks in P with exactly s colors such that each vertex v is incident with blocks colored with exactly p colors, the blocks containing v being shared out as evenly as possible among the p color classes. The smallest value of s for which there exists an (s,p)-equitable H-coloring of G, denoted $\chi'_p(v)$, is considered for C_4-colorings of $K_v - F$ where F is a 1-factor of K_v; this will follow from suitable K_2-colorings of $K_{v/2}$. Of particular interest is when $\chi'_p(v) > p$, in which case traditional edge-coloring proof techniques are rendered useless. The color vector $V(E)$ of an (s,p)-equitable H-coloring E of G is defined to be $(c_1(E), c_2(E), \ldots, c_s(E))$, arranged in non-decreasing order, where $c_i(E)$ is the number of vertices in G incident with a block of color i. In all cases where $\chi'_p(v) > p$, the extreme values of $V(E)$ are considered, namely $c_1(E)$ and $c_s(E)$. An overview of recent findings is presented, utilizing in some cases the powerful proof technique of graph amalgamations. (Received September 20, 2017)