$L(h,k)$ labelings some classes of graphs

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An $L(2,1)$ labeling, introduced by Griggs and Yeh, is a vertex labeling motivated by the channel assignment problem. A generalization, $L(h,k)$ labeling, is a vertex labeling in which labels of adjacent vertices differ by at least h, and labels of vertices that are at distance two differ by at least k. We will discuss $L(h,k)$ labelings and the associated parameters of some classes of graphs including graphs obtained by removing a maximum matching, or the edges in an arbitrary path, from complete graphs for all non-negative integer values of h and k.

Keywords: $L(h,k)$ labeling, $L(h,k)$ span, Cartesian products of graphs