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Symmetric class 0 subgraphs of complete graphs.

In graph pebbling, a simple, connected graph is called *Class 0* if it has a pebbling number equal to the order of the graph. This talk addresses the question of when it is possible to edge-partition a complete graph into k complementary Class 0 subgraphs. We define the notion of k -Class 0 graphs: a graph G on n vertices is k -Class 0 if it contains k edge-disjoint subgraphs of order n , where each subgraph is Class 0. We next present a family of k -Class 0 graphs for $k = 2$, showing that for $n \geq 9$, K_n is 2-Class 0. We finally provide a probabilistic argument to prove that $\forall k \in \mathbb{N}$ such that K_n can be edge-partitioned into k cyclically symmetric subgraphs of diameter 2 and connectivity 3: that is, K_n is k -Class 0. (Received July 30, 2018)