

1086-VN-2700

Kathleen M Ryan* (kmr207@lehigh.edu), Lehigh University Mathematics Department, 14 East Packer Avenue, Bethlehem, PA 18015, and **Garth Isaak**. *Degree Vector Sequences of Edge-Colored Graphs in Specified Families.*

The degree vector of a vertex v in an edge-colored graph is the column vector in which entry i indicates the number of edges of color i incident to v . Given a set of column vectors \mathcal{C} and a graph family \mathcal{F} , when does there exist some edge-colored graph in \mathcal{F} whose set of degree vectors is \mathcal{C} ? This question is NP-Complete in general but certain graph families yield tractable results. We present results on the families we have considered, such as $n \times m$ grids, 2-trees, and a disjoint union of paths and cycles. (Received September 25, 2012)