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Peter Hamburger, Attila Por* (attila.por@wku.edu) and **Matt Walsh.** *Kneser representations of graphs.*

There are several Graph representations, some examples of representations and their associated parameter are product representations giving rise to the product dimension of a graph and modular representations that define the representation number. We investigate Kneser representation and the related Kneser index.

The Kneser graph $K_{n:k}$ has as its vertex set the k -element subsets of some n -set, with disjoint sets being adjacent. The graph G has an $[n : k]$ -Kneser representation when G is an induced subgraph of $K_{n:k}$; precisely when G can be labelled appropriately with k -element sets of an n -set.

The smallest k such that a graph G has a k -Kneser representation shall be called the *Kneser index* of G , denoted by $\iota^K(G)$. Every finite simple graph can be found as an induced subgraph of some Kneser graph.

We are investigating the Kneser index of some families of graphs: Path, Cycle, Hypercube; the connection to the product dimension; and properties of twin-free graphs with Kneser index of two. (Received February 05, 2008)