

Meeting: 1003, Atlanta, Georgia, AMS CP 1, AMS Contributed Paper Session

1003-05-583 **Michael J Ferrara*** (mferrar@emory.edu), **Ronald J. Gould**, **Gerard R. Tansey** and **Thor Whalen**. *On H-Imitations.*

Let H be a graph on k vertices and let G be a graph on a sufficiently large number of vertices with S some k -element subset of $V(G)$. If there is a one-to-one map $f : S \rightarrow V(H)$ such that whenever uv is an edge of H there is an $f(u) - f(v)$ path in $G \setminus S$ then we call S together with these paths an H -imitation on S in G . We will give conditions on the minimum degree of G that ensure for any choice of S , G has an H -imitation on S .

If \mathcal{I} is an H -imitation in G , then the *repetition number* of some vertex x in $G \setminus S$, denoted $r(x)$ is one less than the number of times x appears in a path in \mathcal{I} . We then define the *vertex-repetition number* of \mathcal{I} , denoted $v(\mathcal{I})$, to be

$$\sum_{x \in V(\mathcal{I}) \setminus S} r(x).$$

For any $\lambda \leq \eta(H) - k + 1$, where $\eta(H)$ depends on the structure of H , we will give minimum degree conditions on G that ensure for any choice of S , G has an H -imitation on S having vertex-repetition number at most λ . (Received September 23, 2004)