

Meeting: 1003, Atlanta, Georgia, SS 24A, AMS Special Session on Design Theory and Graph Theory, I

1003-05-1236 **Lawrence W. Kazmierczak, Francis Boesch and Charles L. Suffel***
(csuffel@stevens.edu), Stevens Institute of Technology, Graduate Studies 12th Floor, Castle
Point on Hudson, Hoboken, NJ 07030. *On Invulnerable Networks With Respect to Node Failure.*

The component order connectivity of a network, represented by a simple graph subject to node failures, is the minimum number of nodes required to fail in order to insure that all components of the surviving graph have order smaller than some pre-assigned threshold value. If the number of nodes n and the number of edges e are specified we consider the problem of determining whether a graph having n nodes and e edges exists which simultaneously maximizes the component order connectivity and the connectivity over all graphs having n nodes and e edges. Some partial results are given (Received October 04, 2004)