Konrad Pióro On a property of neighborhood hypergraphs

Comment.Math.Univ.Carolinae 47,1 (2006) 149-154.

Abstract: The aim of the paper is to show that no simple graph has a proper subgraph with the same neighborhood hypergraph. As a simple consequence of this result we infer that if a clique hypergraph \mathcal{G} and a hypergraph \mathcal{H} have the same neighborhood hypergraph and the neighborhood relation in \mathcal{G} is a subrelation of such a relation in \mathcal{H} , then \mathcal{H} is inscribed into \mathcal{G} (both seen as coverings). In particular, if \mathcal{H} is also a clique hypergraph, then $\mathcal{H} = \mathcal{G}$.

Keywords: graph, neighbor, neighborhood hypergraph, clique hypergraph AMS Subject Classification: 05C99, 05C69, 05C65