

UNIVERSITY OF DELAWARE
DEPARTMENT OF MATHEMATICAL SCIENCES
DISCRETE MATHEMATICS SEMINAR

Friday Sep. 27, 2002, 3:45pm, Room 436 Ewing Hall

On r -uniform hypergraphs of girth five.

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Given a set V called vertices, consider a collection E of (some) r -element subsets of V . Call members of E edges. The pair (V, E) is called an r -uniform hypergraph. For $r = 2$, the hypergraphs are usual graphs.

We discuss the notion of a cycle in a hypergraph and mention some related results. The main question we address is this:

What is the maximum number of edges that an r -uniform hypergraph on n vertices can have if it has no cycles of length less than five?

In this talk I will discuss the results on this problem obtained in a recent joint research with Jacques Verstraëte, and the relation of this question with other combinatorial problems.