



Discrete Mathematics and Computer Science Seminars
Department of Mathematical Sciences, Sharif University of Technology

An Erdős-Gallai-type theorem for hypergraphs

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Abstract

In 1959, Erdős and Gallai proved that a graph with no path of length k contains at most $\frac{1}{2}(k-1)n$ edges. Recently Győri, Katona and Lemons considered different extensions of this result to r -uniform hypergraphs (Hypergraph extensions of the Erdős-Gallai Theorem, *European J. Combin.* 58 (2016) 238-246). Specially, they determined the maximum number of hyperedges in an r -uniform hypergraph containing no Berge path of length k for all values of r and k except for $k = r + 1$. In this talk, we settle the remaining case by proving that an r -uniform hypergraph with more than n edges must contain a Berge path of length $r + 1$.

This is a joint work with Ervin Győri, Abhishek Methuku and Casey Tompkins.

Wednesday, 19 Aban 1395 (9 November 2016), **12:45-14:00**
Room **317**, Department of Mathematical Sciences

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