

# On 3-uniform Hypergraphs Without a Cycle of a Given Length

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(joint work with Zoltán Füredi)

We study the maximum number of hyperedges in a 3-uniform hypergraph on  $n$  vertices that does not contain a Berge cycle of a given length  $\ell$ . In particular we prove that the upper bound for  $C_{2k+1}$ -free hypergraphs is of the order  $O(k^2 n^{1+1/k})$ , improving the upper bound of Györi and Lemons by a factor of  $\Theta(k^2)$ . Similar bounds are shown for linear hypergraphs.

MSC2000: 05C35, 05C65, 05D05.

Keywords: Turán number, triangles, cycles, extremal graphs, triple systems..