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*Loose cycles in 3-uniform hypergraphs*

Let  $H$  be a 3-uniform hypergraph on  $n$  vertices and let  $C_k$  denote a loose cycle on  $k$  vertices. In this talk, we will discuss lower bounds for the minimum co-degree of  $H$  that guarantee the existence of spanning sub-hypergraphs of  $H$  consisting of loose cycles. In particular, using the stability approach, we will give a tight minimum co-degree bound for the existence of a  $C_4$ -factor, provided  $n$  is sufficiently large.