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*Extremal hypergraphs for packing and covering*

A packing in a hypergraph  $H$  is a set of pairwise disjoint edges. A cover is a set  $C$  of vertices that meets all edges. A famous open problem known as Ryser's Conjecture states that every  $r$ -partite  $r$ -uniform hypergraph has a cover of size at most  $(r - 1)\nu(H)$ , where  $\nu(H)$  denotes the size of a largest packing in  $H$ . This was proved by Aharoni in 2001 for the case  $r = 3$ . Here we show that if equality holds in this case then  $H$  belongs to a special class of hypergraphs we call "home base hypergraphs".

(joint with L. Narins and T. Szabó)