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TOWARDS LEHEL'S CONJECTURE FOR 4-UNIFORM TIGHT CYCLES

Lehel conjectured that every red-blue edge-coloured complete graph admits a vertex partition into a red cycle and a blue cycle. This conjecture was proved by Bessy and Thomassé in 2010.

We consider a generalisation of Lehel's conjecture to hypergraphs. In particular, we prove that every red-blue edge-coloured complete 4-uniform hypergraph contains a red and a blue tight cycle that are disjoint and together cover almost all vertices.

This is joint work with Allan Lo.