

Decomposing highly connected graphs into paths of any given length

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In 2006, Barát and Thomassen conjectured that, for each tree T , there exists a constant k_T such that, if G is a k_T -edge-connected graph and $|E(G)|$ is a multiple of $|E(T)|$, then G can be edge-decomposed into copies of T . In a series of papers, starting in 2008, Thomassen verified this conjecture for stars, some bistars, paths of length 3, and paths whose length is a power of 2. In 2014, we verified this conjecture when T is a path of length 5, and subsequently, for paths of any given length. In this talk we address this last result. We note that further results on this conjecture were obtained by Bensmail, Harutyunyan, Le and Thomassé (2015), who also proved this conjecture for paths, but using a different approach and weakening the condition on high edge-connectivity. In 2017, these authors, together with Merker, proved the Barát-Thomassen conjecture in its full generality. This is joint work with F. Botler (UFRJ), G. O. Mota (UFABC), and M. T. I. Oshiro (B2W), Brazil.