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Beka Ergemlidze and **Theodore Molla*** (molla@usf.edu). *Transversal C_k -factors in subgraphs of the balanced blowup of C_k* . Preliminary report.

Call a blowup of a graph F an n -blowup if each part has size n . For a subgraph of a blowup of F , we define the minimum partial degree of G to be the smallest minimum degree over all of the bipartite subgraphs of G that correspond to edges of F . Johansson proved that when the minimum partial degree of a spanning subgraph of the n -blowup of a triangle is $2n/3 + n^{1/2}$, then G can be tiled with n vertex disjoint triangles. Fischer's Conjecture, which was proved by Keevash and Mycroft in 2015, is a generalization of this result to complete graphs larger than the triangle. Another generalization, conjectured independently by Fischer and Häggkvist, is the following: If G is a spanning subgraph of the n -blowup of C_k with minimum partial degree $(1 + 1/k)n/2 + 1$, then G contains n vertex disjoint copies of C_k that each intersect all of the k parts. In this talk, we will discuss a proof of an asymptotic version of this conjecture. We will also discuss some related conjectures and results. (Received August 17, 2020)