1073-05-209 **Louis DeBiasio*** (debiasld@muohio.edu), **Andrzej Czygrinow** and **Brendan Nagle**. *Tiling 3-uniform hypergraphs.*

We say a hypergraph H can be *tiled* with a hypergraph F if H contains $\frac{|H|}{|F|}$ vertex disjoint copies of F (we will suppose that $|H|$ is divisible by $|F|$). Let $t_\ell^k(n,F)$ be the smallest integer d so that any k-uniform hypergraph H on n vertices with $\delta_\ell(H) \geq d$ can be tiled with F (where $\delta_\ell(H)$ is the minimum ℓ-degree of the hypergraph H). For graphs, $t_1^2(n,F)$ is known up to an additive constant for every graph F due to a result of Kühn and Osthus. Furthermore $t_1^2(n,F)$ is known exactly for some graphs – notably the Hajnal-Szemerédi theorem implies that $t_1^2(n,K_t) = (1-\frac{1}{t})n$.

In hypergraphs, much less is known about the tiling problem and in this talk I will mainly focus on what is known about $t_2^3(n,F)$. There are a few graphs F for which $t_2^3(n,F)$ is known asymptotically and only one graph F for which $t_2^3(n,F)$ is known exactly. After giving a survey, I will discuss our proof of an exact result for $t_2^3(n,C_4)$, where C_4 is the 3-uniform hypergraph on 4 vertices with 2 edges. (Received August 01, 2011)