1040-05-152 **Gabor N. Sarkozy*** (gsarkozy@cs.wpi.edu), 100 Institute Road, CS Dpt, WPI, Worcester, MA 01609. *Cycles in hypergraphs.*

There are several possibilities to define cycles in hypergraphs. In this talk we survey these different cycle notions in hypergraphs and the results available for them. In particular, we introduce a new cycle definition, the t-tight Berge-cycle. We formulate the following conjecture about the existence of monochromatic Hamiltonian t-tight Berge-cycles. For any fixed $2 \leq c, t \leq r$ satisfying $c + t \leq r + 1$ and sufficiently large n, if we color the edges of the complete r-uniform hypergraph on n vertices, $K_n^{(r)}$, with c colors, then there is a monochromatic Hamiltonian t-tight Berge-cycle. We present some partial results in the direction of this conjecture.

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