

VCU Discrete Mathematics Seminar

A prime factor theorem for bipartite graphs

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VCU!

Tuesday, Oct. 15
12:30–1:20
4119 Harris Hall

It has long been known that the class of connected nonbipartite graphs (with loops allowed) obeys unique prime factorization over the direct product of graphs. Moreover, it is known that prime factorization is not necessarily unique in the class of connected bipartite graphs.

But any prime factorization of a connected bipartite G graph has exactly one bipartite factor. It has been conjectured that this prime bipartite factor must be unique among all factorings; that is, if G has two factorings $G \cong A \times B$ and $G \cong A' \times B'$, where B and B' are prime and bipartite, then $B \cong B'$.

I will explain the gist of a proof, and some interesting ideas that go into it.

