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Weighted Well-Covered Graphs without Cycles of Lengths 4, 5, and 6

A graph G is *well-covered* if all its maximal independent sets are of the same cardinality. Assume that a weight function w is defined on its vertices. Then G is *w -well-covered* if all maximal independent sets are of the same weight. For every graph G , the set of weight functions w such that G is w -well-covered is a *vector space*. Given an input graph G without cycles of length 4, 5, and 6, we characterize polynomially the vector space of weight functions w for which G is w -well-covered.

This is joint work with Vadim E. Levit.