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Bipartite Analogues of Comparability and Co-comparability Graphs

I will discuss bigraph analogues of these graph classes. Surprisingly, in the context of bipartite graphs, they turn out to define the same class. I will mention characterizations in terms of orderings, orientations, and forbidden substructures. These definitions, together with some concepts introduced earlier, create a bipartite world in which one can find analogues of traditional results about graph classes. For instance, we find a bipartite analogue of the fact that the class of interval graphs is the intersection of the classes of cocomparability graphs and chordal graphs.

This is joint work with Jing Huang, Jephian Lin, and Ross McConnell.