1151-05-233 **Nicholas E. Lacasse*** (`lacasse@math.binghamton.edu`). *Signed Graphs and Maximal Families of Disjoint Negation Sets.* Preliminary report.

A signed graph $\Sigma = (\Gamma, \sigma)$ is a graph Γ with a sign function $\sigma : E(\Gamma) \to \{+, -\}$. The sign of a cycle in Σ is the product of the signs of its edges. A signed graph is balanced if all of its cycles are positively signed. A negation set is a set of edges whose negation yields a balanced graph. We will discuss some necessary conditions for finding disjoint negation sets and how to find a maximal family of disjoint negation sets containing a given negation set. (Received August 19, 2019)

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