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Joel S. Foisy* (foisyjs@potdam.edu), Mathematics Department, SUNY Potsdam, Potsdam, NY 13676. *A generalization of the conflict graph.*

Tutte showed that a graph G is planar if and only if the conflict graph associated to every cycle of G is bipartite. We define a (signed) conflict graph associated to every certain type of planar, “rigidly full,” subgraph of a nonplanar graph and prove that having a balanced conflict graph for every rigidly full subgraph is minor-closed. This result, together with Foisy and Raimondi’s finding of an unbalanced conflict graph for every maximal planar subgraph of every graph in the Petersen family, and Robertson, Seymour and Thomas’ work, establishes that every intrinsically linked graph has at least one unbalanced conflict graph. We conjecture that, for every nonplanar graph G , the conflict graph associated to every rigidly full subgraph of G is balanced if and only if G has a flat embedding. (Received September 07, 2021)