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(dong.ye@mtsu.edu), 1301 E Main St, Murfreesboro, TN 37130. *Clar Structures vs Fries Structures in Hexagonal Systems.*

Let H be a cata-condensed benzenoid system. A perfect matching of H is a set of disjoint edges which covers all vertices of H . A resonant set \mathcal{H} of H is a set of hexagons such that there exists a perfect matching M such that the edges of every hexagon in \mathcal{H} alternate between M and $E(G)\setminus M$. The Fries number of H is a maximum size of a resonant set overall and the Clar number of H is a maximum size of the independent resonant set (i.e. all hexagons are disjoint). A pair of hexagonal systems is called a contra-pair if one has a larger Clar number but the other has a larger Fries number. In this paper, we characterize contra-pairs of all cata-condensed hexagonal systems and study the relations between the stability of cata-condensed hexagonal systems and the two topological indices. (Received April 22, 2017)