1154-VP-202   **Zhongyuan Che*** (`zxc10@psu.edu`), Penn State University, Beaver Campus, 100 University Drive, Monaca, PA 15061. *Peripheral convex expansions of resonance graphs.* Preliminary report.

The resonance graph of a plane elementary bipartite graph G, denoted by $Z(G)$, is a graph whose vertex set is the set of all perfect matchings of G and two vertices are adjacent in $Z(G)$ if their symmetric difference is the boundary of a finite face of G. In this talk, we will show that the resonance graph of a plane elementary bipartite graph G can be obtained from an edge by a sequence of peripheral convex expansions with respect to a reducible face decomposition of G if and only if the infinite face of G is forcing, that is, the induced subgraph obtained by removing all vertices on the boundary of G is either empty or has a unique perfect matching. This further generalizes the corresponding result published in Discrete Applied Mathematics 2019 for the peripheral convex expansion structure of the resonance graph of a 2-connected outerplane bipartite graph. (Received August 22, 2019)