1117-13-450   **Mengyao Sun*** (`msun@tulane.edu`). *Regularity of edge ideal of vertex decomposable graphs.* Preliminary report.

The edge ideal construction gives one-to-one correspondence between squarefree monomial ideals and simple hypergraphs. This allows us to study the regularity of squarefree monomial ideals in terms of combinatorial data from associated hypergraphs. In this talk, our focus will be on finding bounds for the regularity of the edge ideal of a vertex decomposable graph. We provide two upper bounds for the regularity in terms of the induced matching number and the number of cycles and show that they are incomparable. (Received January 18, 2016)