1057-13-249   **Sonja Mapes*** (`smapes@math.duke.edu`), Mathematics Department, 117 Physics Bldg, Box 90320, Durham, NC 27708. *Resolutions of monomial ideals and lcm lattices.*

It is known that monomial ideals which have equivalent LCM lattices also have equivalent minimal free resolutions. It has also been shown that given a finite atomic lattice L one can construct monomial ideals M whose LCM lattice is L. This talk takes a coordinate free approach to studying the structure of minimal resolutions of monomial ideals by studying the associated finite atomic lattice and the parameter space of all such lattices. (Received January 24, 2010)