1104-05-140 **Anton Dochtermann*** (anton.dochtermann@gmail.com). *Face rings of cycles, associahedra, and standard tableaux.*

Let J_n denote the quadratic monomial ideal generated by the diagonals of an n-gon (i.e. the Stanley-Reisner ideal of an n-cycle). We show that a free resolution of J_n is encoded by a natural monomial labeling of the (dual) associahedron - a polytope whose faces correspond to non-crossing diagonals. This resolution is not minimal if $n > 5$.

On the other hand, some years ago Richard Stanley gave a simple bijection between the faces of the associahedron and standard Young tableaux (SYT) of certain shapes. We show that the Betti numbers of J_n (the ranks of the free modules in a minimal resolution) are given by the number of SYT of certain sub-shapes. While we do not have a good description of the the differentials with this basis, a natural partial matching suggests a poset structure on the set of SYT. (Received August 28, 2014)