1145-52-1792   **Raman Sanyal** and **Josephine Yu*** (`jyu@math.gatech.edu`), School of Mathematics, Georgia Tech, 686 Cherry St, Skiles Building, Atlanta, GA 30332. *Deformation dimension of zonotopes.* Preliminary report.

Given a polytope, we consider *deformations* obtained by moving the facets in parallel directions while preserving the edges. The space of such deformations is a polyhedral cone, and its dimension, after quotienting out translations, is called the **deformation dimension** of the polytope. In general, the deformation dimension depends not only on the face poset but also on the geometric realization of the polytope. In this talk we will explore the question of whether the deformation dimension of a zonotope is a combinatorial invariant. We give a formula for the deformation dimension when the matroid of the dual hyperplane arrangement of the zonotope is a graphical matroid. We also give some decomposition results in terms of matroids. (Received September 24, 2018)