1150-13-359 **Jay Yang*** (jkyang@umn.edu). *Virtual Resolutions of Monomial Ideals.*

Virtual resolutions as introduced by Berkesch-Erman-Smith are free complexes for ideals in the Cox ring of a toric variety which can be simpler and more geometrically meaningful than the minimal free resolution. I use cellular resolutions to prove a Hilbert syzygy theorem for virtual resolutions in the case of monomial ideals on smooth toric surfaces. This provides evidence suggesting a general Hilbert syzygy theorem for virtual resolutions. (Received July 13, 2019)