1135-13-1516 **Daniel Smolkin*** (smolkin@math.utah.edu). *Subadditivity of test ideals.*

Given a ring R of positive characteristic, an ideal $\mathfrak{a}$ in R, and a positive number t, one can construct what's called the *test ideal* of this data, denoted $\tau(\mathfrak{a}^t)$. This notion was introduced by Hara and Yoshida in 2003, based on work in tight closure by Hochster and Huneke, and it measures the singularities of R and $R/\mathfrak{a}$. Hara and Yoshida also showed that on regular rings, test ideals obey a *subadditivity* formula, namely $\tau(\mathfrak{a}^s\mathfrak{b}^t) \subseteq \tau(\mathfrak{a}^s)\tau(\mathfrak{b}^t)$, and Takagi generalized this formula to the affine case, using the Jacobian ideal as a correction term. This formula has a number of important applications, such as bounding the growth of symbolic powers of ideals.

In this talk, I will discuss a subadditivity formula that holds for non-regular rings using the formalism of cartier algebras. We will compare this formula to earlier subadditivity formulas and see how to compute the correction term in the toric case. (Received September 22, 2017)