1165-13-293 **Lindsey Hill*** (hill178@purdue.edu) and **Rachel Lynn**. *Coefficient Ideals of Monomial Ideals.* Preliminary report.

Let (R, m, k) be a Noetherian local ring of dimension d with an infinite residue field. Let I be an m-primary ideal. If R is equidimensional and universally catenary, the integral closure $\overline{I}$ of an ideal I is the largest ideal containing I such that the multiplicity $e_0(I)$ of I is equal to the multiplicity $e_0(\overline{I})$ of $\overline{I}$. Kishor Shah generalized the notion of the integral closure by defining a sequence of ideals

$$I \subseteq I_{\{d\}} \subseteq I_{\{d-1\}} \subseteq \ldots \subseteq I_{\{1\}} \subseteq I_{\{0\}} = \overline{I}$$

called coefficient ideals where $I_{\{i\}}$, the i^{th} coefficient ideal, is the largest ideal containing I such that the first $i+1$ Hilbert coefficients of I and $I_{\{i\}}$ coincide. The Ratliff-Rush closure usually coincides with the d^{th} coefficient ideal. In this talk, I will discuss properties of coefficient ideals and give computations of coefficient ideals for classes of monomial ideals. (Received January 19, 2021)