1135-13-1717   **Eric Canton*** (`ecanton2@math.unl.edu`). *Log canonical thresholds of graded sequences of ideals in positive characteristic.* Preliminary report.

The log canonical threshold (LCT) of an ideal $\mathfrak{a}$ on a smooth variety X is a fundamental measure of the singularities of the associated subscheme, defined via the coefficients that appear on certain divisors on smooth varieties resolving the singularities of $\mathfrak{a}$. In positive characteristics, these resolutions are not known to exist, and so one considers all possible normal varieties having a proper morphism to X, providing a potentially infinite collection of conditions to check. Even in characteristic zero, if we consider a multiplicatively graded sequence of ideals, there may an infinite number of resolutions to check. Jonsson and Mustata used the valuation space of X (in characteristic zero) to prove that there exists a valuation computing the LCT of a graded sequence, and make several related conjectures regarding the numerical properties of these computing valuations. The speaker presents some of his recent work that applies Frobenius splitting techniques to study these LCTs in positive characteristics using valuation spaces, proving the theorems of Jonsson and Mustata. (Received September 24, 2017)