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Eamon Quinlan-Gallego* (equinlan@umich.edu). *Bernstein-Sato theory for arbitrary ideals in prime characteristic.*

The Bernstein-Sato polynomial of an ideal $\mathfrak{a} \subseteq \mathbb{C}[x_1, \dots, x_n]$ is an invariant that originated in complex analysis and with now strong applications in birational geometry and singularity theory over \mathbb{C} . It measures, for example, the log-canonical threshold of \mathfrak{a} as well as other jumping numbers of the multiplier ideal of \mathfrak{a} .

Since multiplier ideals and the log-canonical threshold admit good analogues in prime characteristic (namely, test ideals and the F -pure threshold) one can hope to develop a theory of Bernstein-Sato polynomials in this setting. This hope was realized by Mustaa and Bitoun for principal ideals $\mathfrak{a} = (f)$ and recently generalized by myself to arbitrary ideals \mathfrak{a} .

In this talk we will survey this new Bernstein-Sato theory in positive characteristic and discuss a comparison result for monomial ideals. (Received July 10, 2019)