

Commutative Algebra Seminar

F-signature of non-local rings

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Abstract: The F-signature of a local ring, a numerical invariant shown to exist by Tucker, is the asymptotic measurement of the number of Frobenius splittings for which a local ring of prime characteristic admits. The F-signature serves as a measurement of singularities. Most notably, the F-signature of a local ring is 1 if and only if the ring is regular, by work of Huneke and Leuschke, and the F-signature of a local ring is positive if and only if the ring is strongly F-regular, by work of Aberbach and Leuschke. We will discuss how the notion and existence of F-signature extends to all rings which are F-finite but not necessarily local. Our methods were made meaningful by extending Huneke's and Leuschke's and Aberbach's and Leuschke's theorems to the non-local case. This is based on joint work with Alessandro De Stefani and Yongwei Yao.

Friday, October 28 at 1:00 PM in SEO 512