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Jack Jeffries* (jackjeff@umich.edu) and **Luis Núñez-Betancourt**. *Quantifying singularities using differential operators.*

The F-signature of a local ring of positive characteristic is a numerical invariant that detects many interesting properties. For example, this invariant detects (non)singularity and strong F-regularity. However, it is very difficult to compute.

We define a numerical invariant for rings of characteristic zero or p that exhibits many of the useful properties of the F-signature. We also compute many examples of this invariant, including cases where the F-signature is not known.

This is joint work with Luis Núñez-Betancourt. (Received June 28, 2017)