1135-14-902 **Ashvin Anand Swaminathan*** (ashvins@math.princeton.edu), 1 Lawrence Drive, Apartment #808, Princeton, NJ 08540, and **Anand Patel** (anand.patel@okstate.edu). *Inflectionary Invariants for Plane Curve Singularities.*

Let k be an algebraically closed field of characteristic 0, and let $f \in k[[x, y]]$ be the germ of an isolated plane curve singularity. We study the role of the singularity germ f in the analysis of inflectionary behavior of curves specializing to a curve with a singularity cut out by f. We introduce a numerical function $m \mapsto \mathrm{AD}^m(f)$, an invariant canonically associated to the isomorphism class of the singularity germ f, which arises as an error term in the problem of enumerating m^{th}-order inflection points in a 1-parameter family of curves acquiring a singular member with singularity given by $f = 0$. For an ordinary nodal singularity $f = xy$, we explicitly compute $\mathrm{AD}^m(f) = \binom{m+1}{4}$, and we deduce as a corollary that $\mathrm{AD}^m(f) \geq \mu_f \cdot \binom{m+1}{4}$ for an arbitrary f, where μ_f is the Milnor number of f. The numerical function $m \mapsto \mathrm{AD}^m(f) - \mu_f \cdot \binom{m+1}{4}$ is thus also an invariant of the singularity type, and it measures the extent to which the singularity counts as an m^{th}-order inflection point. Our main results can be applied to address a broad range of enumerative questions concerning inflection points in families of curves. (Received September 16, 2017)