

Limits of intrinsic metrics on the vanishing
variety of curve singularities

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The "set" of all metric spaces has a natural metric
(See M.Gromov : Groups of polynomial growth and expanding maps,
IHES preprint 1980). So we have the following problem : let

$$f : \mathbb{C}^{n+1} \rightarrow \mathbb{C}$$

have a singularity at 0, let $X_t = \{z \in \mathbb{C}^{n+1} \mid f(z) = t \text{ and } \|z\| \leq \varepsilon\}$ be the vanishing variety.

For t small and $t \neq 0$ we give X_t an intrinsic metric,
for instance the Kobayashi metric. So it makes sense to study
the limit behavior of the sequence $X_{1/n}$, $n = 1, 2, \dots$, in the
space of metric spaces. What limit do we get, how does the
monodromy act on the limit etc. ? Only for curve singularities
we can present a result.