

On the b -exponents of generic isolated plane curve singularities

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Abstract: In 1982, Tamaki Yano proposed a conjecture predicting how is the set of b -exponents of an irreducible plane curve singularity germ which is generic in its equisingularity class. In 1986, Pi. Cassou-Noguès proved the conjecture for the one Puiseux pair case. In a previous work the authors proved the conjecture for two Puiseux pairs germs whose complex algebraic monodromy has distinct eigenvalues. A natural problem induced by Yano's conjecture is, for a generic equisingular deformation of an isolated plane curve singularity germ to study how the set of b -exponents depends on the topology of the singularity. The natural generalization suggested by Yano's approach holds in suitable examples (for the case of isolated singularities which are Newton non-degenerated, comode and whose set of spectral numbers are all distincts). Moreover we show with an example that this natural generalization is not correct. We restrict to germs whose complex algebraic monodromy has distinct eigenvalues such that the embedded resolution graph has vertices of valency at most 3 and we discuss some examples with multiple eigenvalues. (*Joint work E. Artal-Bartolo, Pi. Cassou-Noguès and I. Luengo*)