

Semimodules of separatrices of dicritical foliations

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In the 1960s, O. Zariski introduced the problem of moduli of plane branches, which consists of giving the description, under analytic equivalence, of the equisingularity class of a given branch. In 2011, A. Hefez and M. E. Hernandez provided a complete solution to this problem. The key object in the solution of this problem is the set of differential values of the branch, this set has a semimodule structure over the semigroup of the branch. In a recent work by F. Cano, N. Corral y D. Senovilla the generators of the semimodule are characterized in terms of the order of contact between the branch and the so called totally dicritical foliations. Given a branch of a fixed equisingularity class, we consider a totally dicritical foliations that has this branch as a separatrix. The aim of this talk is to study under which conditions on this foliation it can be ensured that all separatrices have the same semimodule as the given branch. To address this problem we extend the notion of polar transversality introduced by O. Gómez in a previous work, with respect to a standard basis of the branch. In particular, we present some results that allow to compare the semimodules of the separatrices of the foliation. This is a work in progress in collaboration with N. Corral and D. Senovilla.

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