

An Approach to the Whitney Equisingularity of Families of Complete Intersection Germs with Non-isolated Singularities

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In [1], the speaker found necessary and sufficient invariants for a family of isolated complete intersection singularities to be Whitney equisingular. The key new invariant was the multiplicity of the Jacobian module. In [2], with Robert Gassler, the speaker found how to extend and modify some of the ideas of [1], to get similar results for families of hypersurfaces with non-isolated singularities. In [3] and [4] the speaker, together with Antoni Rangachev in [3] and Maria Ruas in [4] found how to get similar results for determinantal singularities (Isolated and Essentially Isolated). The new ingredient was comparing the Jacobian module of a member of the family with the Jacobian module of a universal singularity and its polar varieties. Combining ideas from all four papers we describe the first steps in developing similar results for complete intersections with non-isolated singularities. We will illustrate our ideas using the case of families of complete intersections with one dimensional singular locus.

[1] Multiplicities and equisingularity of ICIS germs, *Inventiones*, Vol. 123, 209–220 1996.

[2] Segre Numbers and Hypersurface Singularities, with Robert Gassler, *Journal of Algebraic Geometry* 8, 695-736, 1999.

[3] “Pairs of modules and determinantal or irreducible isolated singularities” with Antoni Rangachev. (arXiv:1501.00201v2)

[4] “Equisingularity and EIDS” with Maria Ruas, (accepted by *Proceedings of the AMS*, <https://arxiv.org/pdf/1602.00362.pdf>)