

Milnor numbers in deformations of singularities

Tadeusz Krasiński

(joint work with Sz. Brzostowski and J. Walewska)

Faculty of Mathematics and Computer Science

University of Łódź

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Abstract. Let f_0 be a complex isolated singularity at $0 \in \mathbb{C}^n$, i.e. f_0 is a holomorphic function-germ at $0 \in \mathbb{C}^n$ such that

1. $f_0(0) = 0$,
2. $\nabla f_0(0) := (\frac{\partial f_0}{\partial z_1}(0), \dots, \frac{\partial f_0}{\partial z_n}(0)) = 0$,
3. $\nabla f_0(z) \neq 0$ for sufficiently small $z \neq 0$.

Let $\mu(f_0) \in \mathbb{N}$ be the Milnor number of f_0 . We describe the changes of Milnor numbers in deformations of f_0 . In particular we are interested in the jump of the Milnor number of f_0 defined as the minimal non-zero difference between the Milnor number of f_0 and one of its deformations (f_s).