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Title: Resolution of instabilities

Abstract: Let X be a hypersurface. On one hand, in the context of hyper-surface deformation theory, X can be deformed locally to a smooth space \mathbb{F}_X (the *Milnor-Lê fiber* of X). On the other hand, thanks to the theory of resolution of singularities formulated by Hironaka, X can be modified to a smooth space \tilde{X} , without modifying its regular part.

Now, take a mapping

$$f : X^n \rightarrow M^{n+1}$$

In the context of deformation theory (Thom-Mather theory), if X is smooth then f can be perturbed locally to a (topologically) stable one f_t . On the other hand, a theory similar to the *resolution of singularities*, but for mapping, does not yet exist. Hence our aim is to start formulating the so call *Resolution of instabilities* of a mapping which returns a stable map \tilde{f} replacing the unstable points of f with stable ones. In particular, we are interested in defining a good resolution of instability that provides topological information through the resolution graph.