PARABOLIC CURVES AND SEPARATRICES IN $\mathbb{C}^2$

It is known that any tangent to the identity diffeomorphism F in $\mathbb{C}^2$ with 0 as isolated fixed point admits parabolic curves, i.e., functions defined in a domain of $\mathbb{C}$ with the origin in the boundary whose image is invariant and attracted by 0 under the action of F. These parabolic curves are related to the separatrix of the formal vector field X whose flow in time 1 is F.

We will give a simple proof of the existence of parabolic curves for F and specify a little their relation with the separatrix of X.