

Abstract

Let \mathcal{A} be the set of real analytic diffeomorphism of the plane which admit the origin as an elliptic fixed point. We say that an element f of \mathcal{A} is locally integrable at the origin if one can find a (possibly small) neighborhood of the origin on which f is conjugated to a generalized rotation; we denote their set by \mathcal{A}_{int} . Let \mathcal{A}_{symp} be the set of elements of \mathcal{A} that are symplectic and \mathcal{A}_{IP} the set of elements of \mathcal{A} that have the intersection property. I shall discuss the proofs of the following results: the sets $\mathcal{A}_{int} \cap \mathcal{A}_{symp}$ and $\mathcal{A}_{int} \cap \mathcal{A}_{IP}$ are dense for the real analytic topology in respectively \mathcal{A}_{symp} and \mathcal{A}_{IP} .