ON THE FATOU-JULIA DECOMPOSITION OF TRANSVERSALLY HOLOMORPHIC FOLIATIONS OF COMPLEX CODIMENSION ONE

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A foliation of a manifold is said to be *transversally holomorphic* if its holonomy pseudogroup can be given by biholomorphic local diffeomorphisms. In the study of complex dynamical systems and Kleinian groups, the notions of the Julia set and the limit set are significant. It has been expected that there also exists a Fatou-Julia decomposition of transversally holomorphic foliations of complex codimension one. Indeed, a Fatou-Julia decomposition of complex codimension-one foliations is firstly given by Ghys, Gomez-Mont and Saludes. The Julia sets are expected to play a role of minimal sets of real codimension-one foliations. For example, it is known that the Godbillon-Vey class is trivial if the Julia set is empty. This can be seen as a weak analogue of Duminy's theorem for real codimension-one foliations taking Hurder's results on the Godbillon-Vey measures into account. However, there are transversally Hermitian foliations of which the Julia set is the whole manifold, where a foliation is transversally Hermitian if it admits a holonomy invariant Hermitian metric on its complex normal bundle. Such examples are not preferable from the viewpoint as above because transversally Hermitian foliations are usually considered to be simple. Indeed, the Godbillon-Vey class of these foliations is trivial. There will be several approaches to avoid this kind of examples. One way is to replace the Julia sets with smaller ones. In this talk, we will propose another Fatou-Julia decomposition and announce some results.

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