Isoperiodic foliations in moduli spaces of mermorphic forms with simple poles

Gabriel Calsamiglia

Universidade Federal Fluminense;
gcalsamiglia@id.uff.br

Abstract:

The equivalence relation "having the same periods" defines a regular holomorphic foliation in the moduli space of meromorphic differentials with at worst simple poles on complex curves of fixed genus and number of poles. We will present some results that allow to describe the closure of each leaf, in terms of the topological properties of the set of periods in the complex plane.

As a consequence of the techniques, we will deduce that, in the case of two simple poles, there are an infinite number of closed leaves that are algebraic (considered as subsets of the Deligne-Mumford compactification of the fibered ambient space) and also an infinite number of leaves that are closed, but not algebraic .

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