Foliations on orientable closed surfaces generated by Morse Bott functions

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Foliations on manifolds occur in some geometric contexts, for example as solutions of differential equations and integrable systems. In fact, the decomposition of the leaves of a foliation of codimension one on a surface in points, oriented lines or circles generates a flow on the surface, then the study of the foliation ensures us to study of behavior global of the integral curves of the flow.

Following these ideas, many researchers have been discussed about topological invariants in order to obtain the classification of integrable systems and foliations on surfaces, in particular, the relationship between them and topology. See [1,2,3,4].

The aim in this poster is to present a new complete topological invariant that classifies foliations on orientable closed surfaces generated by Morse Bott functions called here Morse Bott foliations. Also, conditions that an abstract graph G with labels must fulfill to be realizable as the invariant for these kind of foliations.

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