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The Noether-Fano inequalities for codimension one singular holomorphic foliations. (English)

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The classical Noether-Fano inequalities bound the singularities of a generic element of a homaloidal system, in terms of the algebraic degree of the associated birational map. The paper generalizes these inequalities to the domain of codimension one singular holomorphic foliations of the projective space. The author obtains criteria to prove that the degree of a foliation on the plane is minimal in the birational class of the foliation and to show the non-existence of birational symmetries of generic foliations (except automorphisms).

Several examples of birational symmetries of special foliations are given, illustrating in great detail the results.

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37F75 Holomorphic foliations and vector fields

14E07 Birational automorphisms, Cremona group and generalizations