

Algebraization theorems, transcendence techniques, and the hermitian geometry of algebraic foliations

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Abstract

Various classical results in algebraic geometry assert that some geometric objects, such as varieties or sections of vector bundles, *a priori* defined in an analytic or formal setting, are indeed algebraic.

In this talk, firstly I shall describe how various results in Diophantine geometry, old and new, may be given a “geometric proof” and appear as arithmetic counterparts of these algebraization theorems.

Then I shall discuss various problems of complex hermitian geometry—notably concerning algebraic foliations—which originate from this geometric approach and the solution of which would have remarkable arithmetic consequences.