Algebraization criteria and positivity in Arakelov geometry.

Jean Benoît Bost

A classical theorem of algebraic geometry aserts that, if C is a smooth projective curve in some algebraic variety X and if $\hat{V}$ is a smooth formal subscheme of the formal completion of X along C, admitting C as scheme of definition, then $\hat{V}$ is indeed algebraic when the normal bundle $N_C\hat{V}$ is ample. We present an arithmetic analogue of this result, formulated in terms of Arakelov geometry, and discuss applications to the arithmetic theory of differential equations.