Inequalities of Liouville's type on a curve

Michel Laurent (laurent@iml.univ-mrs.fr)
CNRS
Institut de Mathmatiques de Luminy
163 Avenue de Luminy, Case 907
12288, MARSEILLE Cedex 9
France

Abstract. Let C be an algebraic curve defined over the field of algebraic numbers. For any pair of distinct algebraic points located on C, we describe diophantine inequalities involving the distance of these two points for all possible metrics. Our estimates refine earlier results of the same kind obtained using G-fuctions, and are made totally explicit when the curve is given by a plane equation.

We also give some applications to effective versions of Hilbert's Irreducibility Theorem and to Runge's method.