

Theoretical Statistics and Mathematics Unit

Seminar

Date: June 22, 2016

Time: 04:15 PM

Venue: L-infinity, Stat-Math Unit (5th Floor, A.N. Kolmogorov Bhavan)

Avinash Sathaye

University of Kentucky

How to recognize a hyperbola?

Abstract

While the graph of the usual hyperbola is very familiar, the same curve can be embedded in the plane in different ways. We call a plane curve $f(X,Y)=0$ to be an abstract hyperbola if its coordinate ring is isomorphic to that of the hyperbola, i.e. isomorphic to $k[t,1/t]$. While it is easy to deduce that there are infinitely many distinct embeddings, the problem of classifying all the different equations $f(X,Y)=0$ up to the automorphism of the plane is intriguing. While there is a proposed classification and the experts believe it to be correct, the proof has not been completely worked out. We shall discuss the nature of the problem, present some known results and pose some unsolved problems.

All are cordially invited