

1046-11-283

Laura L. Hall-Seelig*, Dept. of Mathematics and Statistics, Lederle Graduate Research Tower, University of Massachusetts, Amherst, MA 01003-9305. *New Lower Bounds for the Ihara Function $A(q)$.*

The study of curves over finite fields lies at the intersection of number theory and algebraic geometry. The Ihara function demonstrates an asymptotic relationship between the number of points on a curve defined over a finite field and its genus. The exact behavior of this function is not known; however, many bounds for its values have been computed. Using the computer algebra system MAGMA, we have been able to improve some known explicit lower bounds. (Received August 25, 2008)