

1053-11-111

Chris Hall* (christopher.hall@uwyo.edu), Ross Hall 305, Dept 3036, 1000 E. University Ave,
Laramie, WY 82071. *Gonality and Hilbert Irreducibility.*

Given a Galois extension of the function field $\mathbb{Q}(t)$ one can specialize t to an element of a number field K in order to obtain a Galois extension of K . While the specialized Galois group is allowed to be smaller in general, a typical argument using Hilbert Irreducibility allows one to conclude that ‘most’ specializations have the same Galois group. The main goal of our talk will be to review a modern approach to drawing this conclusion. The key ingredient will be Faltings’ celebrated (big) theorem which implies that a curve over a number field F with large gonality has only finitely many rational points defined over some small extension K/F . If time permits, we will describe an application to the endomorphism rings of the members of a (sufficiently general) one-parameter family of abelian varieties over \mathbb{Q} . (Received August 26, 2009)