

Artin-Schreier extensions of minimal genus

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Abstract

In this talk, we discuss the problem of characterizing Artin-Schreier extensions of certain supersingular curves. Our focus for the base curves of such extensions will be with curves with large automorphism groups. We will show that certain p -extensions are, up to isomorphism, a unique curve with very special arithmetic and geometric properties. For instance, they may have a large automorphism group whose p -Sylow subgroups attain the Nakajima bound for curves of zero p -rank.