

Function Field Analogue of Shimura's Conjecture on Period Symbols

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Abstract

In this talk, we first introduce the notion of Shimura's period symbols over function fields and establish their fundamental properties. We further formulate and prove an analogue of Shimura's conjecture on the algebraic independence of these symbols. Our results enable us to clarify the algebraic relations among quasi-periods of a "non-degenerate CM" abelian t -module defined over an algebraic function field. Further applications to special values of various gamma functions in positive characteristic will be discussed if time permits. This is joint work with W. D. Brownawell, C.-H. Chang, and M. A. Papanikolas.