2022 年首都师范大学数论研讨会

2022

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		$\mathbb{Z}/p\mathbb{Z}$	

Speaker

Title Vandiver K

Abstract p $K = \mathbb{Q}(\zeta\ )$ p K^+
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expression in terms of the first $2d+1$ initial values $N_1(f,a),...,N_{2d+1}(f,a)$, where d is a positive integer no more than $q-1$. From this result, the theorems of Chowla-Cowles-Cowles and of Myerson can be derived. This is a joint work with Drs. Yulu Feng, Junyong Zhao and Chaoxi Zhu.

Speaker
Title: L-values of elliptic curves and ternary quadratic forms
Abstract: Tunnell related L-values of congruent number elliptic curves to certain ternary quadratic forms. Gross etc established such result for elliptic curves with square-free conductor case. In this talk, we introduce Tunnell-Gross type formula for general case. It is joint work with Wei He and Wei Xiong.

Speaker
Title: A p-adic Landau-Ginzburg B-model
Abstract: The Landau-Ginzburg (LG) B-model associated to a Laurent polynomial is construct from the algebraic twisted de Rham complex using complex Hodge theory. We endow an arithmetic structue on the twisted de Rham complex and use p-adic Hodge theory to construct the LG B-model.

Speaker
Title p Bergdall-Pollack
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Mazur, Buzzard-Calegari, Bergdall-Pollack p
Nha Truong
Bergdall-Pollack

Speaker
Title: The growth of Tate-Shafarevich groups in $\mathbb{Z}/p\mathbb{Z}$-extensions
Abstract Let p
abelian variety A over a global field K, the p-Selmer group Selp(A/L) grows unboundedly when L ranges over the $\mathbb{Z}/p\mathbb{Z}$-extensions of K. Moreover, he

raised a further problem: is the dimension of Sha$(A/L)[p]$ also unbounded under the above conditions? In this talk we give a positive answer to this problem in the case p not equal char$K$. This result enable us to generalize the work of Clark, Sharif and Creutz on the growth of potential Sha in cyclic extensions. We also answer a problem poposed by Lim and Murty concerning the growth of the fine Tate-Shafarevich groups. This is joint work with Jianfeng Xie.

Speaker
Title Weil Kloosterman
Abstract
Weil Kloosterman

Speaker
Title: Constructions of m-ovoids of the Symplectic Polar Spaces
Abstract: An m-ovoid in the symplectic polar space $W(2r-1,q)$ is a set $\mathcal{M}$ of points such that every maximal of $W(2r-1,q)$ meets $\mathcal{M}$ in exactly m points. A 1-ovoid in $W(2r-1,q)$ is simply called an ovoid. Ovoids in $W(2r-1,q)$ (and more generally in any classical polar space) were first

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Speaker
Title: On the 2-part of the Birch-Swinnerton-Dyer exact formula

Abstract: In this lecture, I will present a general lower bound for the 2-adic valuation of the algebraic part of the central L-value for all the quadratic twists of any elliptic curve over the rationals, and some stronger lower bound results for certain quadratic twists of certain elliptic curves.

Speaker
Title: L-
Abstract: LL- GL(3) L-
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