

One day Workshop on VOA

Date: August 21, 2017

Venue: Auditorium, 6 Floor, Institute of Mathematics (NTU Campus)

09:00- 09:50 Hiromichi Yamada (Hitotsubashi University and Academia Sinica)

Title: Title: \mathbb{Z}_k -code VOAs and their representations

Abstract: Using k simple currents of the parafermion VOA $K(sl_2, k)$, we construct a simple, rational and C_2 -cofinite VOA of CFT-type associated with a \mathbb{Z}_k -code of length l , which is a simple current extension of a tensor product of l copies of $K(sl_2, k)$. We also construct irreducible modules for the \mathbb{Z}_k -code VOA in irreducible modules for a certain lattice VOA.

09:50-10:10 Break

10:10-11:00 Tomonori Hashikawa (Tohoku University)

Title: On some orbifold VOAs of the lattice VOA associated with E_8 -lattice.

Abstract: It was shown by Lam and Shimakura that the orbifold VOA $V_{L_g}^{\hat{g}}$ has group-like fusion for an even unimodular lattice L and a prime order isometry g , where L_g is the coinvariant lattice of g in L . The E_8 -root lattice is the unique even unimodular lattice of rank 8 and its automorphism group is the corresponding Weyl group. In this talk, we will discuss the orbifold VOA $V_{(E_8)_g}^{\hat{g}}$ for any isometry g of E_8 .

11:10-12:00 Hiroshi Yamauchi (Tokyo Woman Christian's University)

Title: Title: An approach to the moonshine VOA via the symmetric group of degree 24

Abstract: In this talk I will explain a possible construction of the moonshine VOA using the Matsuo algebra associated to the symmetric group of degree 24.

12:00-13:30 Lunch

13:30-14:20 Masahiko Miyamoto (University of Tsukuba)

Title: Twelfth Night, Superconformal Algebra and Hadamard Matrix.

Abstract: I will talk about Mathieu Moonshine on $N = 4$ superconformal algebra of central charge 6 and the elliptic genus of $K3$ -surfaces. In particular, I will show you how to construct $N = 4$ superconformal algebras of central charge 6 by using Hadamard matrix of size 12 or a special element fixed by Mathieu simple group M_{24} .

14:30-15:20 Hiroki Shimakura (Tohoku University)

Title: Orbifold constructions associated with the Leech lattice vertex operator algebra

Abstract: In this talk, I explain a general method for proving the uniqueness of a holomorphic VOA V with non-trivial weight one space based on the "reverse" orbifold construction. Moreover, I discuss orbifold constructions associated with the Leech lattice VOA and applications. This talk is based on a joint work with C.H. Lam.

15:20-16:00 Break

16:00-16:50 Ching Hung Lam (Academia Sinica)

Title: Coinvariant lattices of Leech lattice and homomorphic VOA of central charge 24.

Abstract: In this talk, I will discuss a construction of homomorphic VOAs of central charge 24 using some coinvariant lattices of Leech lattice.

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09:00-09:50	Hiromichi Yamada (Hitotsubashi University)
09:50-10:10	BREAK
10:10-11:00	Tomonori Hashikawa (Tohoku University)
11:10-12:00	Hiroshi Yamauchi (Tokyo Woman's Christian University)
12:00-13:30	LUNCH
13:30-14:20	Masahiko Miyamoto (Tsukuba University)
14:30-15:20	Hiroki Shimakura (Tohoku University)
15:20-16:00	BREAK
16:00-16:50	Ching Hung Lam (Academia Sinica)

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