Codes, Lattices, Modular Forms and Vertex Operator Algebras

Octorber 2 – 4, 2000
Faculty of Science, Yamagata University

Organizers: Michio Ozeki (Yamagata University)
Eiichi Bannai (Kyushu University)
Masaaki Harada (Yamagata University)

PROGRAM

Octorber 2 Monday

10:00–10:10 Opening

10:10–11:00 Rudolf Scharlau (Universität Dortmund, Germany)
Classifying lattices using modular forms

11:10–12:00 Robin Chapman (University of Exeter, UK)
Double circulant constructions of lattices

13:30–14:20 Ming-Chang Kang (National Taiwan University, Taiwan)
Lüroth's Theorem revisited

14:30–15:10 Steven T. Dougherty (University of Scranton, USA)
Shadows of codes over rings of order 4

15:30–16:20 Michel Deza (Ecole Normale Supérieure, France)
Rank 1 forms, closed zones and laminae

16:30–17:00 Hiroki Aoki (Ritsumeikan University)
Estimation of the dimension of modular forms by using Jacobi forms

Octorber 3 Tuesday

9:30–10:20 Tomoyoshi Ibukiyama (Osaka University)
A general theory of differential operators on Siegel modular forms and special polynomials

10:30–11:20 Boris Venkov (Steklov Mathematical Institute in St. Petersburg, Russia)
On Siegel modular forms of weight 12

11:30–12:00 Nobuhiko Ishida (Osaka Institute of Technology)
and Noburo Ishii (Osaka Prefecture University)
Generators and defining equation of the modular function field of the group $\Gamma_1(N)$

13:30–14:20 Masahiko Miyamoto (Tsukuba University)
VOAs and modular forms of rational number weights

14:30–15:00 Haesuk Kim (Pohang University of Science and Technology, Korea)
Codes over $\mathbb{Z}_{2m}$ and Jacobi forms of genus n

15:20–16:10 Hidenori Katsurada (Muroran Institute of Technology)
Dirichlet series for Siegel modular forms and quadratic forms

16:20–17:00 Yoshiyuki Kitaoka (Meijo University)
Distribution of units of a cubic field with negative discriminant

Octorber 4 Wednesday

9:30–10:20 Siegfried Böcherer (Universität Mannheim, Germany)
Modular forms of high vanishing order and applications to quadratic forms

10:30–11:20 Patrick Solé (CNRS, ESSI, France)
Rankin-Cohen brackets and transvectants

11:30–12:00 Jon-Lark Kim (University of Illinois at Chicago, USA)
On additive self-dual codes over GF(4) and lattices

13:20–14:10 Hiromichi Yamada (Hitotsubashi University)
Lattice VOAs and Virasoro algebras

14:20–14:50 Masaaki Kitazume (Chiba University)
Classification of 12-dimensional even unimodular Gaussian lattices

15:00–15:20 Manabu Oura (Kyushu University)
A theta relation in genus 4

15:20–15:40 Keisuke Shiromoto (Kumamoto University)
Maximum distance codes over finite rings

15:40–16:00 Masaaki Harada (Yamagata University)
$\mathbb{Z}_{22}$-code construction of the Leech lattice