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解析的整数論

京都大学数理解析研究所

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Analytic Number Theory

August, 2006

Research Institute for Mathematical Sciences

Kyoto University, Kyoto, Japan

Preface

This volume is devoted to the proceedings of the symposium on *Analytic Number Theory* 2005 which took place under the auspices of the Research Institute for Mathematical Sciences (R.I.M.S.), Kyoto University, during the period from October 17 to 19, 2005 at the same institute. This symposium belongs the series of the symposia on analytic number theory and related fields, which have annually been held at R.I.M.S. since 1992. These successive symposia have played vital rôles to report new progress and developments of analytic number theory and related fields both within and without Japan, also to promote mutual interactions between analytic number theorists and mathematicians from other fields, and further to create opportunities for opening up new individual/collaborative research projects. This good tradition was also continued in 2005 for organizing the symposium on *Analytic Number Theory*, where the major topics of the year were focused upon zeta-functions and L-functions, together with their related aspects.

The organizer deeply acknowledges the sponsorship (not only in finance but also in practice) by the Research Institute for Mathematical Sciences, Kyoto University. He would also like to express his sincere gratitude to Professor Shigeki Egami, Professor Shigeru Kanemitsu, and Professor Kohji Matsumoto, who kindly took part in the advisory board and the program committee of the symposium. This symposium was supported in part by Grants-in-Aid for Scientific Research (C) No. 16540038 from Japan Society for the Promotion of Science, and also by Academic Development Funds from Keio University.

Yokohama
August 8, 2006

Masanori Katsurada

解析的整数論

Analytic Number Theory

京都大学数理解析研究所の共同研究事業の一つとして、下記のように研究集会を催しますので、ご案内申し上げます。

研究代表者　桂田 昌紀 (慶大・経済)

記

日時：　2005年　10月17日 (月) 8:55 ～
10月19日 (水) 12:05

場所：　京都大学数理解析研究所4階420号室
京都市左京区北白川追分町

プログラム

10月17日 (月)

8:55～9:00　Opening

9:00～10:00　黒川 信重 (東工大・理)
多重三角関数とゼータ関数

10:10～11:10　Christopher Deninger (Univ. Münster)
A dynamical analogue of Lichtenbaum's recent conjectures on special values of zeta functions

11:20～11:50　大野 泰生 (近畿大・理工)
多重ゼータ値と Bernoulli 数について

13:30～14:30　Youn-Seo Choi (Korea Inst. Adv. Study)
Ramanujan's forty identities for the Rogers-Ramanujan functions

14:40～15:10　Winfried Kohnen (Univ. Heidelberg)
On the number of representations of integers by positive definite quadratic forms

15:40～16:10　赤塚 広隆 (東工大・理)
多重オイラー因子

16:20～17:00　神谷 諭一 (明治学院大・非常勤)
Beurling のスペクトル理論の観点からの Weil の明示公式の解釈，試み

10月18日 (火)

9:00〜10:00　谷口 隆 (東大・数理)
２次拡大体の類数と単数基準の積の２乗に関する平均値定理

10:10〜11:10　本橋 洋一 (日大・理工)
Smoothed GPY sieve

11:20〜11:50　三河 寛 (筑波大・数学系)
Temenoujka Peneva (筑波大・数学系, Univ. Plovdiv)
素数の立方いつつの和について

13:30〜14:30　吉田 敬之 (京大・理)
極限公式に現れる特殊函数と相互法則について II

14:40〜15:10　川田 浩一 (岩手大・教育)
滑らかな数の３乗の和について

15:40〜16:10　野田 工 (日大・工)
非正則 Eisenstein 級数の漸近展開 II

16:20〜17:00　鈴木 正俊 (名古屋大・多元数理)
Ramanujan のデルタ関数に付随する sym^2 L 関数の零点について

18:00〜20:00　芝蘭会館にて懇親会

10月19日 (水)

9:00〜10:00　渡部 隆夫 (阪大・理)
Severi-Brauer 多様体上の Minkowski 第２定理

10:10〜11:10　Stéphane Louboutin (Inst. Math. Luminy)
Some explicit upper bounds for residues of zeta functions of number fields taking into account the behavior of the prime 2

11:20〜12:05　津村 博文 (首都大・都市教養)
多重ゼータ関数の関数関係式について

12:05〜12:10　Closing

Analytic Number Theory

Date : 17-19 October, 2005
Place : Research Institute for Mathematical Sciences (RIMS), Kyoto Univ., Kyoto, JAPAN
Organizer : Masanori Katsurada (Keio Univ.)

Program

Monday 17 October

8:55–9:00	Opening
9:00–10:00	Nobushige Kurokawa (Tokyo Inst. Tech.) Multiple sine functions and zeta functions
10:10–11:10	Christopher Deninger (Univ. Münster) A dynamical analogue of Lichtenbaum's recent conjectures on special values of zeta functions
11:20–11:50	Yasuo Ohno (Kinki Univ.) On multiple zeta values and Bernoulli numbers
13:30–14:30	Youn-Seo Choi (Korea Inst. Adv. Study) Ramanujan's forty identities for the Rogers-Ramanujan functions
14:40–15:10	Winfried Kohnen (Univ. Heidelberg) On the number of representations of integers by positive definite quadratic forms
15:40–16:10	Hirotaka Akatsuka (Tokyo Inst. Tech.) Multiple Euler factors
16:20–17:00	Yuichi Kamiya (Meijigakuin Univ.) An attempt to interpret the Weil explicit formula from Beurling's spectral theory

Tuesday 18 October

9:00–10:00 Takashi Taniguchi (Univ. Tokyo)
Some mean value theorems for the square of class numbers times regulator of quadratic extensions

10:10–11:10 Yoichi Motohashi (Nihon Univ.)
Smoothed GPY sieve

11:20–11:50 Hiroshi Mikawa (Univ. Tsukuba)
Tmenoujka Peneva (Univ. Tsukuba & Univ. Plovdiv)
Sums of five cubes of primes of short intervals

13:30–14:30 Hiroyuki Yoshida (Kyoto Univ.)
On special functions related to the limit formula and reciprocity law II

14:40–15:10 Koichi Kawada (Iwate Univ.)
On sums of cubes of smooth numbers

15:40–16:10 Takumi Noda (Nihon Univ.)
Asymptotic expansions of the non-holomorphic Eisenstein series II

16:20–17:00 Masatoshi Suzuki (Nagoya Univ.)
On the zeros of the symmetric square L-function associated with the Ramanujan delta-function

18:00–20:00 Reception party at *Shiran Kaikan*

Wednesday 19 October

9:00–10:00 Takao Watanabe (Osaka Univ.)
Minkowski's second theorem over a Severi-Brauer variety

10:10–11:10 Stéphane Louboutin (Inst. Math. Luminy)
Some explicit upper bounds for residues of zeta functions of number fields taking into account the behavior of the prime 2

11:20–12:05 Hirofumi Tsumura (Tokyo Metropolitan Univ.)
Functional relations for various multiple zeta-functions

12:05–12:10 Closing

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RIMS 研究集会報告集

２００５年１０月１７日～１０月１９日

研究代表者　桂田　昌紀 (Masanori Katsurada)

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