uniform
distribution
theory

SECOND INTERNATIONAL CONFERENCE ON UNIFORM DISTRIBUTION THEORY

STROBL AM WOLFGANGSEE, AUSTRIA, JULY 5–9, 2010

ABSTRACT. The present volume of Uniform Distribution Theory contains papers originally presented or inspired by the Second International Conference on Uniform Distribution Theory. This is a report on this conference.

Preface

On July 5–9, 2010 the Second International Conference on Uniform Distribution Theory was held in Strobl am Wolfgangsee in Austria. The organizer of the conference was Friedrich Pillichshammer (Linz). The meeting had 55 participants representing the countries: Australia, Austria, Bulgaria, Czech Republic, France, Hungary, Italy, Japan, Poland, Russia, Slovakia, Spain, Switzerland, Turkey, United Kingdom and United States.

During the conference there were 8 plenary talks and 32 contributed talks covering topics from Number Theory that can be summarized under the key words: *Lacunary sequences, Diophantine equations, discrepancy theory, Benford's law, discrete Riesz energy, Diophantine approximation, Cantor sets, partitions, Zaremba point sets, distribution functions, uniform distribution, cryptography, iterates of rational functions, fractional discrepancy, pseudorandom numbers, diaphony, digital sequences, digital nets, uniform distribution on fractal sets, exponential sums, Thue-Morse sequences, density, Glasner sets, Erdös-Turán--Koksma inequality, lattice point discrepancy, digital properties of prime numbers, Kloosterman sums, Kakutani's splitting procedure, ergodic theory and normal numbers.*

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List of lectures

Plenary talks

CHRISTOPH AISTLEITNER: *Lacunary sequences, permutations and Diophantine equations.*

DIMITRIY BILYK: *On Roth's orthogonal function method in discrepancy theory.*

CLEMENS FUCHS: *The iterates of a rational function and their number of terms.*

PIERRE LIARDET: *Dynamics around uniform distribution.*

CHRISTIAN MAUDUIT: *Extracting subsequences from the Thue-Morse sequence.*

HARALD NIEDERREITER: *A generalized Erdös-Turán-Koksma inequality and its applications.*

JOËL RIVAT: *Digital properties of prime numbers.*

IGOR SHPARLINSKI: *Distribution of points on modular hyperbolas.*

Contributed talks

VLADIMÍR BALÁŽ: *The first digit problem for the sequence* $1, 2, 3, \ldots$

JOHANN S. BRAUCHART: *Minimal discrete Riesz energy and discrepancy.*

YANN BUGEAUD: *Diophantine approximation and Cantor sets.*

INGRID CARBONE: *Discrepancy of LS-sequences of partitions.*

HENRI FAURE: *Generalizations of Zaremba two dimensional point sets.*

JANA FIALOVÁ: *On two-dimensional sequences composed by one-dimensional uniformly distributed sequences.*

JÁNOS FOLLÁTH: *Notes on a family of preimage-resistant functions.*

MICHAEL GNEWUCH: *Fractional discrepancy.*

DOMINGO GÓMEZ PÉREZ: *Average discrepancy of nonlinear pseudorandom number generators via Dickson polynomials and Rédei functions.*

JULIA GRESLEHNER: *The b-adic diaphony of digital sequences.*

VASSIL GROZDANOV: *On the generalized* $b-$*adic diaphony of the net of Zaremba--Halton over finite abelian groups.*

PETER HELLEKALEK: *Diaphony in terms of p-adic arithmetic.*

ROSWITHA HOFER: *On very special digital* $(0, s)$*-sequences.*

MARTIN HUXLEY: *The lattice rest of a convex body in two dimensions.*

MARIA INFUSINO: *Uniform distribution on fractals and Khodak's algorithm.*

IMRE KÁTAI: *Construction of normal numbers by classified prime divisors of integers.*

SERGEI KONYAGIN: *Explicit constructions of almost orthogonal systems of vectors.*

PETER KRITZER: *Propagation rules for digital higher order nets.*

LADISLAV MIŠÍK: *Density and distribution of sets of positive integers*.

JOHANNES MORGENBESSER: *Generalized Thue-Morse sequence and uniform distribution in compact groups*.

RADHAKRISHNAN NAIR: *Glasner sets*.

WERNER GEORG NOWAK: *Estimates for the lattice discrepancy of certain bodies in* $\mathbf{R}^3$.

YUKIO OHKUBO: *Notes on distribution functions of multidimensional sequences*.

ALINA OSTAFE: *Pseudorandom number generators and polynomials*.

FLORIAN PAUSINGER: *A lower bound for the diaphony of generalized van der Corput sequences in arbitrary base b*.

ILYA D. SHKREDOV: *On some two-dimensional configurations in dense sets*.

STEFAN STEINERBERGER: *Random restricted matching and lower bounds for combinatorial optimization*.

GIANCARLO TRAVAGLINI: *Randomized Riemann sums and discrepancy in many variables*.

ALEXEY USTINOV: *Kloosterman sums and continued fractions*.

ALJOŠA VOLČIČ: *A generalization of Kakutani's splitting procedure*.

REINHARD WINKLER: *A little topological counterpart of Birkhoff's ergodic theorem*.

ARNE WINTERHOF: *Fermat quotients and pseudorandomness*

Friedrich Pillichshammer

List of participants

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Participants of the Second International Conference on
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held in Strobl am Wolfgangsee in Austria, July 5–9, 2010.

A view on the castle Smolenice and surrounding nature.

The First Announcement

Dear Colleagues, The third International Conference on Uniform Distribution Theory 2012 will be held on June 25-29, 2012 at the castle Smolenice, Congress Centre of the Slovak Academy of Sciences, nearby Bratislava. This conference is a direct continuation of the First conference in Marseilles, 2008 and the Second conference in Strobl. The conference is organized by the Mathematical Institute of the Slovak Academy of Sciences and by Department of Mathematics, University of Ostrava. The conference focuses on recent researches in the area of the journal Uniform Distribution Theory, `http://udt.mat.savba.sk/` `http://www.boku.ac.at/MATH/udt/`

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