

OP - SF NET - Volume 15, Number 1 - January 15, 2008

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The Electronic News Net of the
SIAM Activity Group on Orthogonal Polynomials and Special Functions

<http://math.nist.gov/opsf/>

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Today's Topics:

1. Message from the Chair
2. Hausdorff Center workshop
3. New book on Numerical Methods for Special Functions
4. Ramanujan's Lost Notebook
5. Website and CD-ROM's on the life and work of Ramanujan
6. Preprints in arXiv.org
7. About the Activity Group
8. Submitting contributions to OP-SF NET

Calendar of Events:

2008

January 14 - July 4, 2008: Program: Combinatorics and Statistical Mechanics, Isaac Newton Institute for Mathematical Sciences, Cambridge, United Kingdom

<http://www.newton.cam.ac.uk/programmes/CSM/>

March 2-7, 2008: Ninth International Conference "Approximation and Optimization in the Caribbean" (APPOPT'2008)" San Andres Island, Colombia.

<http://matematicas.univalle.edu.co/~appopt2008/?seccion=anuncio&idioma=EN>

May 15-17, 2008: Twelfth International Conference Devoted to the Memory of Academician Mykhailo Kravchuk (Krawtchouk) (1892-1942) Kyiv, Ukraine.

Information: Ukraine, 03056, Kyiv-56, Peremohy Ave. 37, National Technical University of

Ukraine (KPI), Phys.-Math. Departments, Corpus 7, Room 437, M. Kravchuk Conference, N. Virchenko; tel. (380) 44 454-97-40; e-mail: kravchukconf@yandex.ru
http://www.ams.org/mathcal/info/2008_may15-17_kyiv.html

June 3-9, 2008: CONSTRUCTIVE THEORY OF FUNCTIONS

Campos do Jordão, Brazil, June 3-9, 2008

<http://www.ibilce.unesp.br/CTF-08>

14.6, #6

June 16-26 2008: Foundations of Computational Mathematics, City University of Hong Kong at Hong Kong, China

WORKSHOP A6

Special functions and orthogonal polynomials

ORGANISERS: Peter Clarkson, Guillermo Lopez, Mourad Ismail & Ed Saff

WORKSHOP B1

Asymptotic analysis

ORGANISERS: Arno Kuijlaars & Roderick Wong

<http://www.damtp.cam.ac.uk/user/na/FoCM/FoCM08/>

June 22 - 28, 2008: 8th International Conference on Symmetries and Integrability of Difference Equations (SIDE 8), Ste-Adele, Quebec, Canada

14.6, #7

http://www.crm.umontreal.ca/SIDE8/index_e.shtml

June 22-28, 2008: Combinatorics 2008 - Costermano, Verona, Italy.

<http://combinatorics.ing.unibs.it/>

July 21-25, 2008: Workshop "Elliptic integrable systems, isomonodromy problems, and hypergeometric functions", Hausdorff Center for Mathematics, Bonn, Germany

15.1 #2

<http://www.hausdorff-center.uni-bonn.de/elliptic-integrable-systems>

August 12-18, 2008: Fifth International Conference of Applied Mathematics and Computing, Plovdiv, Bulgaria

14.6, #9

<http://math.uctm.edu/conference2008/>

August 13-19, 2008: XXVII International Colloquium on Group Theoretical Methods in Physics (Group-27), Yerevan, Armenia

14.6, #8

<http://theor.jinr.ru/~group27/>

September 8-12, 2008: International Workshop on Orthogonal Polynomials and Approximation Theory, in honor to the 60th Birthday of Guillermo López Lagomasino, Madrid. Spain 14.6, #10
<http://www.uc3m.es/iwopa08/>

October 4-5, 2008: AMS Fall Western Section Meeting
Vancouver, Canada, including Special Session on *Special Functions and Orthogonal Polynomials*, organized by Mizanur Rahman and Diego Dominici,
http://www.ams.org/amsmtgs/2139_program_ss2.html#title

Topic #1 ----- OP-SF NET 15.1 ----- January 15, 2008

From: Francisco J. Marcellán pacomarc@ing.uc3m.es

Subject: Message from the Chair

Dear colleagues and friends of the SIAM Activity Group on Orthogonal Polynomials and Special Functions:

Following the recent elections, the Officers of our SIAG/OPSF for the three year term starting January 1, 2008 are:

Chair: Francisco Marcellán

Vice Chair: Peter Clarkson

Secretary: Dan Lozier

Program Director: Peter McCoy

All of us are committed to improving the visibility of our SIAG within the SIAM structure. First of all, we would like to invite people to become members of our SIAG in order to increase our participation and our identity. Second, we invite you to enhance an awareness of the SIAG Newsletter among members and potential contributors, with personal opinions as well as announcements and reports on meetings, professional opportunities, mathematical problems, and suggestions about the general policy of SIAM concerning our research interests. In particular, the place of OP and SF in the SIAM journals is an ongoing concern of many of our members both with regard to both editorial appointments and the scope of the journals. Finally, we must emphasize the importance of organizing meetings within the framework of SIAM activities with special attention to young people interested in orthogonal polynomials and special functions.

Topic #2 ----- OP-SF NET 15.1 ----- January 15, 2008

From: Hjalmar Rosengren hjalmar@math.chalmers.se

Subject: Hausdorff Center workshop

The Hausdorff Center for Mathematics (Bonn, Germany) is organizing a workshop

"Elliptic integrable systems, isomonodromy problems, and hypergeometric functions".

Dates: 21-25 July, 2008.

Topics:

- * Elliptic completely integrable systems
- * Elliptic Painlevé equation
- * Elliptic hypergeometric functions
- * Univariate and multivariate elliptic biorthogonal functions
- * Elliptic determinants and theta functions on root systems

Expected number of participants: around 35.

The list of tentative participants includes A. Borodin, J.F. van Diejen, Y. Komori, H. Konno, Yu.I. Manin, M. Noumi, M.A. Olshanetsky, E.M. Rains, H. Rosengren, S.N.M. Ruijsenaars, H. Sakai, M. Schlosser, E. Sklyanin, V.P. Spiridonov, J. Stokman, K. Takemura, S. Tsujimoto, S.O. Warnaar, Y. Yamada, A.S. Zhedanov.

Organizers and scientific committee: Yu.I. Manin, M. Noumi, E.M. Rains, H. Rosengren, V.P. Spiridonov.

This is a satellite conference to the Fifth European Congress of Mathematics in Amsterdam (July 14-18, 2008).

Further details about the workshop are available on the website
<http://www.hausdorff-center.uni-bonn.de/elliptic-integrable-systems>

Topic #3 ----- OP-SF NET 15.1 ----- January 15, 2008

From: OP-SF NET Editors

Subject: New book on Numerical Methods for Special Functions

Title: Numerical Methods for Special Functions

Authors: Amparo Gil, Javier Segura, and Nico M. Temme

SIAM and Cambridge University Press, 2007, xvi + 415 pages.

ISBN 978-0-898716-34-4.

See for Table of Contents, Preface, and Index:

<http://www.ec-securehost.com/SIAM/OT99.html>

For a sample chapter on Chebyshev polynomials, see

<http://www.siam.org/books/ot99/OT99SampleChapter.pdf>

Short Table of Contents:

1 Introduction

 I Basic Methods

2 Convergent and Divergent Series

3 Chebyshev Expansions

4 Recurrence Relations and Continued Fractions

5 Quadrature Methods

 II Further Tools and Methods

6 Continued Fractions

7 Computation of the Zeros of Special Functions

8 Uniform Asymptotic Expansions

9 Other Methods: Padé approximations, Sequence transformations,
Best rational approximations, Numerical solution of ODEs: Taylor expansion
method, Other quadrature methods.

 III Related Topics and Examples

10 Inversion of Distribution Functions

11 Further Examples: The Euler summation formula, Approximations of Stirling
Numbers, Symmetric elliptic integrals, Numerical inversion of Laplace transforms.

 IV Software

12 Associated Algorithms: Airy and Scorer functions of complex arguments,
Associated Legendre functions of integer and half-integer degrees, Bessel
functions, Parabolic cylinder functions, Zeros of Bessel functions.

Topic #4 ----- OP-SF NET 15.1 ----- January 15, 2008

From: Tom Koornwinder <thk@science.uva.nl>

Subject: Ramanujan's Lost Notebook

Readers may be interested in the article "Your hit parade: the top ten most fascinating formulas in Ramanujan's Lost Notebook", by George E. Andrews and Bruce C. Berndt, which appears in Notices AMS, vol 55, no. 1, January 2008. pp. 18-30. See

<http://www.ams.org/notices/200801/tx080100018p.pdf>

for the article and

<http://www.ams.org/notices/200801/>

for the whole issue.

Topic #5 ----- OP-SF NET 15.1 ----- January 15, 2008

From: Tom Koornwinder <thk@science.uva.nl>

Subject: Website and CD-ROM's on the life and work of Ramanujan

Prof. K. Srinivasa Rao maintains a very rich website

<http://www.imsc.res.in/~rao/ramanujan/>

on the life and work of Ramanujan.

Furthermore, recently a two-CD-ROM set came out on Ramanujan. Part I contains, among other things, some biographical details on Srinivasa Ramanujan in multimedia format along with the scanned contents of his original Notebooks and Collected Papers. Part II contains, among other things, the five volume work entitled "Ramanujan's Notebooks" by Bruce C. Berndt. See detailed information about this CD-ROM set at

<http://www.cdac.in/html/nmrc/mathgen.asp>

However, it is not clear there, how the set can be ordered.

Topic #6 ----- OP-SF NET 15.1 ----- January 15, 2008

From: OP-SF NET Editors

Subject: Preprints in arXiv.org

The following preprints related to the fields of orthogonal polynomials and special functions were posted or cross-listed to one of the subcategories of arXiv.org during November and December 2007.

<http://front.math.ucdavis.edu/0711.4940>

Title: Means and Hermite Interpolation

Authors: Alan [Horwitz](#)

Categories: math.CA [Classical Analysis and ODEs](#)

Comments: Submitted for publication to the Journal of Mathematical Analysis and Applications-19 pages. No figures

MSC: 26E60

<http://front.math.ucdavis.edu/0711.4696>

Title: Elliptic polynomials orthogonal on the unit circle with a dense point spectrum

Authors: Alexei [Zhedanov](#)

Categories: math.CA [Classical Analysis and ODEs](#)

Comments: 28 pages

MSC: 33E05, 33E20, 33C47

<http://front.math.ucdavis.edu/0711.4161>

Title: Scaled Asymptotics For Some q -Series As q Approaching Unit

Authors: Ruiming [Zhang](#)

Categories: math.CA [Classical Analysis and ODEs](#)

Comments: 16

MSC: 30E15;33D45.

<http://front.math.ucdavis.edu/0711.4043>

Title: An introduction to upper half plane polynomials

Authors: Steve [Fisk](#)

Categories: math.CA [Classical Analysis and ODEs](#)

Comments: 13 pages

MSC: 26C10, 12D10, 30C15

<http://front.math.ucdavis.edu/0711.3692>

Title: A Short Proof of a Known Relation for Consecutive Power Sums

Authors: Vladimir [Shevelev](#)

Categories: math.CA [Classical Analysis and ODEs](#) (math.NT [Number Theory](#))

Comments: 4 pages

MSC: 11B68

<http://front.math.ucdavis.edu/0711.3386>

Title: Converging to Gosper's Algorithm

Authors: William Y. C. [Chen](#), Peter [Paule](#), Husam L. [Saad](#)

Categories: math.CA [Classical Analysis and ODEs](#) (math.CO [Combinatorics](#))

Comments: 13 pages

MSC: 33F10; 05A19

<http://front.math.ucdavis.edu/0711.2703>

Title: The Analytic Theory of Matrix Orthogonal Polynomials

Authors: David [Damanik](#) (Rice), Alexander [Pushnitski](#) (King's College), Barry [Simon](#) (Caltech)

Categories: math.CA [Classical Analysis and ODEs](#) (math.SP [Spectral Theory](#))

Comments: 92 pages

<http://front.math.ucdavis.edu/0711.1763>

Title: Second order differential operators having several families of orthogonal matrix polynomials as eigenfunctions

Authors: Antonio J. [Duran](#), Manuel D. [de la Iglesia](#)

Categories: math.CA [Classical Analysis and ODEs](#)

Comments: 16 pages

MSC: 42C05

<http://front.math.ucdavis.edu/0711.1740>

Title: When do linear combinations of orthogonal polynomials yield new sequences of orthogonal polynomials?

Authors: M. [Alfaro](#), F. [Marcellan](#), A. [Pena](#), M. L. [Rezola](#)

Categories: math.CA [Classical Analysis and ODEs](#)

Comments: 11 pages

MSC: 33C45, 42C05

<http://front.math.ucdavis.edu/0711.1592>

Title: Nombres de Bernoulli et une formule de Ramanujan

Authors: Oleg [Ogievetsky](#), Vadim [Schechtman](#)

Categories: math.CA [Classical Analysis and ODEs](#)

Comments: 27 pages

MSC: 65B15

<http://front.math.ucdavis.edu/0711.4986>

Title: On highly transcendental quantities which cannot be expressed by integral formulas

Authors: Leonhard [Euler](#)

Categories: math.HO [History and Overview](#) (math.CA [Classical Analysis and ODEs](#))

Comments: 5 pages, E565

MSC: 01A50; 33-03; 33E20

<http://front.math.ucdavis.edu/0711.4739>

Title: Finite Gap Jacobi Matrices: An Announcement

Authors: Jacob S. [Christiansen](#), Barry [Simon](#), Maxim [Zinchenko](#)

Categories: math.SP [Spectral Theory](#) (math.CA [Classical Analysis and ODEs](#))

Comments: 17 pages, 2 figures

MSC: 47B36; 42C05; 47A10; 30F35

<http://front.math.ucdavis.edu/0711.2742>

Title: A massive Feynman integral and some reduction relations for Appell functions

Authors: M. A. [Shpot](#)

Categories: physics.hep-th [High Energy Physics - Theory](#) (math.CA [Classical Analysis and ODEs](#); physics.math-ph [Mathematical Physics](#))

Comments: 19 pages. To appear in Journal of Mathematical Physics

Journal reference: *Journ. Math. Phys.* 48, 123512 (2007) ([DOI](#))

<http://front.math.ucdavis.edu/0711.2454>

Title: Ladder Operators for q-orthogonal Polynomials

Authors: Yang [Chen](#), Mourad E. H. [Ismail](#)

Categories: physics.math-ph [Mathematical Physics](#) (math.CA [Classical Analysis and ODEs](#))

Comments: 14 pages

<http://front.math.ucdavis.edu/0711.1579>

Title: Holomorphic dynamics, Painlevé VI equation and Character Varieties

Authors: Serge [Cantat](#) (IRMAR), Frank [Loray](#) (IRMAR)

Categories: math.DS [Dynamical Systems](#) (math.AG [Algebraic Geometry](#); math.CA [Classical Analysis and ODEs](#))

<http://front.math.ucdavis.edu/0711.0544>

Title: Wall rational functions and Khrushchev's formula for orthogonal rational functions

Authors: Olav [Njåstad](#), Luis [Velazquez](#)

Categories: math.CA [Classical Analysis and ODEs](#)

Comments: 40 pages

MSC: 42C05

<http://front.math.ucdavis.edu/0712.4299>

Title: P-symbols, Heun Identities, and 3F2 Identities

Authors: Robert S. [Maier](#)

Categories: math.CA [Classical Analysis and ODEs](#)

Comments: 20 pages

MSC: 33E30 (Primary) 33C05, 33C20, 34M35 (Secondary)

<http://front.math.ucdavis.edu/0712.4253>

Title: Determinants of elliptic hypergeometric integrals

Authors: E. M. [Rains](#), V. P. [Spiridonov](#)

Categories: math.CA [Classical Analysis and ODEs](#)

Comments: 17 pages, LaTeX

<http://front.math.ucdavis.edu/0712.4106>

Title: Orthogonal Polynomials from Hermitian Matrices

Authors: Satoru [Otake](#), Ryu [Sasaki](#)

Categories: math.CA [Classical Analysis and ODEs](#) (math.QA [Quantum Algebra](#); physics.hep-th [High Energy Physics - Theory](#); physics.math-ph [Mathematical Physics](#))

Comments: 52 pages, no figures

Report number: DPSU-07-5, YITP-07-91

<http://front.math.ucdavis.edu/0712.3902>

Title: Addition Theorems Via Continued Fractions

Authors: Mourad E. H. [Ismail](#), Jiang [Zeng](#)

Categories: math.CA [Classical Analysis and ODEs](#) (math.CO [Combinatorics](#))

Comments: 34 pages

MSC: 33D15, 33 C15, 30E05. 05A15

<http://front.math.ucdavis.edu/0712.3856>

Title: Topics in Special Functions

Authors: G. D. [Anderson](#), M. K. [Vamanamurthy](#), M. [Vuorinen](#)

Categories: math.CA [Classical Analysis and ODEs](#) (math.CV [Complex Variables](#))

Comments: 22 pages

Report number: Report 83, Univ. Jyväskylä (2001), 5-26, ISBN 951-39-1120-9

MSC: 33-02, 33B15, 33C05, 33C65, 33E05

<http://front.math.ucdavis.edu/0712.3478>

Title: The Kadets 1/4 theorem for polynomials

Authors: J. [Marzo](#), K. [Seip](#)

Categories: math.CA [Classical Analysis and ODEs](#)

Comments: 7 pages

MSC: 26D05; 30D55

<http://front.math.ucdavis.edu/0712.3091>

Title: Orthogonal polynomials and partial differential equations on the unit ball

Authors: Miguel [Pinar](#), Yuan [Xu](#)

Categories: math.CA [Classical Analysis and ODEs](#)

Comments: 9

MSC: 33C50, 33E30, 42C05

<http://front.math.ucdavis.edu/0712.2738>

Title: Orthogonal Laurent polynomials on the unit circle and snake-shaped matrix factorizations

Authors: Ruyman Cruz [Barroso](#), Steven [Delvaux](#)

Categories: math.CA [Classical Analysis and ODEs](#)

Comments: 29 pages, 5 figures

<http://front.math.ucdavis.edu/0712.2125>

Title: On an identity by Pieter de Jong. I

Authors: Tom H. [Koornwinder](#), Michael J. [Schlosser](#)

Categories: math.CA [Classical Analysis and ODEs](#)

Comments: 6 pages

MSC: 33-01, 33B20, 33C05, 13F07

<http://front.math.ucdavis.edu/0712.1460>

Title: Bounds on Tur{á}n determinants

Authors: Christian [Berg](#) (University of Copenhagen), Ryszard [Szwarc](#) (University of Wrocław)

Categories: math.CA [Classical Analysis and ODEs](#)

MSC: 33C45;26D07

<http://front.math.ucdavis.edu/0712.1366>

Title: An expansion for polynomials orthogonal over an analytic Jordan curve

Authors: Erwin [Miña-Díaz](#)

Categories: math.CA [Classical Analysis and ODEs](#) (math.CV [Complex Variables](#))

Comments: 15 pages, 1 figure

MSC: 05E35

<http://front.math.ucdavis.edu/0712.1333>

Title: Non-intersecting squared Bessel paths and multiple orthogonal polynomials for modified Bessel weights

Authors: A. B. J. [Kuijlaars](#), A. [Martinez-Finkelshtein](#), F. [Wielonsky](#)

Categories: math.CA [Classical Analysis and ODEs](#) (math.PR [Probability Theory](#); physics.math-ph [Mathematical Physics](#))

Comments: 59 pages, 11 figures

<http://front.math.ucdavis.edu/0712.0292>

Title: An algorithm for evaluating the Gamma function and ramifications

Authors: D. [Karayannakis](#)

Categories: math.CA [Classical Analysis and ODEs](#)

Comments: 12 pages

<http://front.math.ucdavis.edu/0712.0069>

Title: Generalized Bochner theorem: characterization of the Askey-Wilson polynomials

Authors: Luc [Vinet](#), Alexei [Zhedanov](#)

Categories: math.CA [Classical Analysis and ODEs](#)

Comments: 16 pages

MSC: 33C45; 42C05

<http://front.math.ucdavis.edu/0712.0058>

Title: Elliptic solutions of the Toda chain and a generalization of the Stieltjes-Carlitz polynomials

Authors: Alezei [Zhedanov](#)

Categories: math.CA [Classical Analysis and ODEs](#)

Comments: 36 pages, submitted to Ramanujan J

MSC: 33C47; 33E05; 37K10

<http://front.math.ucdavis.edu/0712.4002>

Title: On the irrationality of Ramanujan's mock theta functions and other q-series at an infinite number of points

Authors: Angelo B. [Mingarelli](#)

Categories: math.NT [Number Theory](#) (math.CA [Classical Analysis and ODEs](#))

Comments: Preprint, Dec. 24, 2007: 11 pages

MSC: 11J72

<http://front.math.ucdavis.edu/0712.1332>

Title: Ramanujan-type formulae for $1/\pi$: A second wind?

Authors: Wadim [Zudilin](#)

Categories: math.NT [Number Theory](#) (math.CA [Classical Analysis and ODEs](#))

Comments: 13 pages

MSC: 11F11, 11Y60, 33C20 (Primary); 05A19, 11B65, 11J82, 11M06, 14H52, 14J32, 33C75, 33F10, 34M50, 40G99, 65B10, 65Q05 (Secondary)

<http://front.math.ucdavis.edu/0711.4030>

Title: Pauli Pascal Pyramids, Pauli Fibonacci Numbers, and Pauli Jacobsthal Numbers

Authors: Martin Erik [Horn](#)

Categories: math.GM [General Mathematics](#)

Comments: 33 pages, 22 figures

<http://front.math.ucdavis.edu/0711.0481>

Title: On q-deformed Stirling numbers

Authors: Yilmaz [Simsek](#)

Categories: math.NT [Number Theory](#) (math.GM [General Mathematics](#))

Comments: 7 pages

MSC: 11B39, 11B68, 11B73

<http://front.math.ucdavis.edu/0712.0934>

Title: The cycle problem: an intriguing periodicity to the zeros of the Riemann zeta function

Authors: David D. [Baugh](#) (Rice University)

Categories: math.GM [General Mathematics](#)

Comments: 5 pages, 9 figures

MSC: 11Y40, 11M26

<http://front.math.ucdavis.edu/0711.4432>

Title: Generalized Christoffel-Darboux formula for classical skew-orthogonal polynomials

Authors: Ghosh [Saugata](#)

Categories: physics.math-ph [Mathematical Physics](#)

Comments: 30 pages

<http://front.math.ucdavis.edu/0711.4082>

Title: Peakons and Cauchy Biorthogonal Polynomials

Authors: M. [Bertola](#), M. [Gekhtman](#), J. [Szmigielski](#)

Categories: nlin.SI [Exactly Solvable and Integrable Systems](#) (physics.math-ph [Mathematical Physics](#))

Comments: 55 pages

<http://front.math.ucdavis.edu/0711.3408>

Title: New connection formulae for some q-orthogonal polynomials in q-Askey scheme

Authors: Abdelkader [Yanallah](#) (LPQ3M, LAPTH), Mohammed Brahim [Zahaf](#) (LPQ3M, LAPTH)

Categories: physics.hep-th [High Energy Physics - Theory](#) (physics.math-ph [Mathematical Physics](#))

Report number: LAPTH-1215/07

<http://front.math.ucdavis.edu/0712.1046>

Title: Polylogarithms, hyperfunctions and generalized Lipschitz summation formulae

Authors: Stefano [Marmi](#), Piergiulio [Tempesta](#)

Categories: math.NT [Number Theory](#) (math.CV [Complex Variables](#); physics.math-ph [Mathematical Physics](#))

Comments: 15 pages

<http://front.math.ucdavis.edu/0711.4412>

Title: Stirling's formula derived simply

Authors: Joseph B. [Keller](#)

Categories: math.CO [Combinatorics](#)

Comments: 4 pages

MSC: 33B15; 11B37

<http://front.math.ucdavis.edu/0711.1373>

Title: Partition Polynomials: Asymptotics and Zeros

Authors: Robert P. [Boyer](#), William M. Y. [Goh](#)

Categories: math.CO [Combinatorics](#) (math.NT [Number Theory](#))

MSC: 05C38, 15A15, 05A15, 15A18

<http://front.math.ucdavis.edu/0711.1400>

Title: Polynomials associated with Partitions: Polynomials associated with Partitions: Their Asymptotics and Zeros

Authors: Robert P. [Boyer](#), William M. Y. [Goh](#)

Categories: math.CO [Combinatorics](#)

Comments: 4 figures

<http://front.math.ucdavis.edu/0712.4185>

Title: Appell polynomials and their relatives II. Boolean theory

Authors: Michael [Anshelevich](#)

Categories: math.OA [Operator Algebras](#) (math.CO [Combinatorics](#))

MSC: Primary 46L53; Secondary 46L54, 05E35, 30B70

<http://front.math.ucdavis.edu/0712.4087>

Title: On the difference of partial theta functions

Authors: Alexander [Berkovich](#)

Categories: math.NT [Number Theory](#) (math.CO [Combinatorics](#))

Comments: 6 pages

MSC: 33D15

<http://front.math.ucdavis.edu/0712.3665>

Title: Sharp tridiagonal pairs

Authors: Kazumasa [Nomura](#), Paul [Terwilliger](#)

Categories: math.RA [Rings and Algebras](#) (math.CO [Combinatorics](#))

Comments: 24 pages

MSC: 05E35

<http://front.math.ucdavis.edu/0712.1707>

Title: Stokes matrices of hypergeometric integrals

Authors: Alexey [Glutsyuk](#), Christophe [Sabot](#)

Categories: math.DS [Dynamical Systems](#) (math.CV [Complex Variables](#))

Comments: 2 figures

MSC: 34M40

<http://front.math.ucdavis.edu/0712.1656>

Title: Special Values of Generalized Polylogarithms

Authors: S. A. Zlobin

Categories: math.NT [Number Theory](#) (math.CV [Complex Variables](#))

Comments: 32 pages

MSC: 11M06; 11Y60; 30B10; 30E20; 33B15; 33B30; 33C05

<http://front.math.ucdavis.edu/0711.5005>

Title: Fast methods to compute the Riemann zeta function

Authors: Ghaith Ayesh [Hiary](#)

Categories: math.NT [Number Theory](#)

Comments: Corrected Typos

MSC: 11Y16

<http://front.math.ucdavis.edu/0711.5002>

Title: A nearly-optimal method to compute the truncated theta function, its derivatives, and integrals

Authors: Ghaith Ayesh [Hiary](#)

Categories: math.NT [Number Theory](#)

Comments: Two figures. Corrected Typos

MSC: 11Y16

<http://front.math.ucdavis.edu/0711.4898>

Title: Values of coefficients of cyclotomic polynomials II

Authors: Chun-Gang [Ji](#), Wei-Ping [Li](#), Pieter [Moree](#)

Categories: math.NT [Number Theory](#)

Comments: 5 pages

MSC: 11B83; 11C08

<http://front.math.ucdavis.edu/0712.0705>

Title: A quantum mechanical model of the Riemann zeros

Authors: German [Sierra](#)

Categories: physics.math-ph [Mathematical Physics](#) (math.NT [Number Theory](#);
physics.cond-mat [Condensed Matter](#); physics.hep-th [High Energy Physics - Theory](#);
physics.quant-ph [Quantum Physics](#))

Comments: 42 pages, 12 figures

Topic #7 ----- OP-SF NET 15.1 ----- January 15, 2008

From: OP-SF NET Editors

Subject: About the Activity Group

The SIAM Activity Group on Orthogonal Polynomials and Special Functions consists of a broad set of mathematicians, both pure and applied. The Group also includes engineers and scientists, students as well as experts. We have around 140 members scattered about in more than 20 countries. Whatever your specialty might be, we welcome your participation in this classical, and yet modern, topic. Our WWW home page is:

<http://math.nist.gov/opsf/>

This is a convenient point of entry to all the services provided by the Group. Our Webmaster is Bonita Saunders (bonita.saunders@nist.gov).

The Activity Group sponsors OP-SF NET, which is transmitted periodically by SIAM. It is provided as a free public service; membership in SIAM is not required. The OP-SF Net Editors are Diego Dominici (dominicd@newpaltz.edu) and Martin Muldoon (muldoon@yorku.ca).

To receive the OP-SF NET, send your name and email address to poly-request@siam.org.

Back issues can be obtained at the WWW addresses:

<http://staff.science.uva.nl/~thk/opsfnet>

<http://www.math.ohio-state.edu/JAT/DATA/OPSFNET/opsfnet.html>

<http://cio.nist.gov/esd/emaillist/lists/opsfnet/maillist.html>

For several years the Activity Group sponsored a printed Newsletter, most recently edited by Rafael Yanez. Back issues are accessible at:

<http://www.mathematik.uni-kassel.de/~koepf/siam.html>

Given the widespread availability of email and the Internet, the need for the printed Newsletter has decreased. Discussions are underway concerning whether an annual printed Newsletter or Annual Report should be instituted.

SIAM has several categories of membership, including low-cost categories for students and residents of developing countries. For current information on SIAM and Activity Group membership, contact:

Society for Industrial and Applied Mathematics
3600 University City Science Center
Philadelphia, PA 19104-2688 USA
phone: +1-215-382-9800
email: service@siam.org
WWW : <http://www.siam.org>
<http://www.siam.org/membership/outreachmem.htm>

Finally, the Activity Group operates an email discussion group, called OP-SF Talk. To subscribe, send the email message

subscribe opsftalk Your Name

to listproc@nist.gov. To contribute an item to the discussion, send email to opsftalk@nist.gov. The archive of all messages is accessible at:

<http://math.nist.gov/opsftalk/archive>

Topic #8 ----- OP-SF NET 15.1 ----- January 15, 2008

From: OP-SF NET Editors

Subject: Submitting contributions to OP-SF NET

To contribute a news item to OP-SF NET, send email to poly@siam.org with a copy to one of the OP-SF Editors dominicd@newpaltz.edu or muldoon@yorku.ca. Contributions to OP-SF NET 15.2 should be sent by March 1, 2008.

OP-SF NET is a forum of the SIAM Activity Group on Special Functions and Orthogonal polynomials. We disseminate your contributions on anything of interest to the special functions and orthogonal polynomials community. This includes announcements of conferences, forthcoming books, new software, electronic archives, research questions, job openings.

Send submissions to: poly@siam.org

Subscribe by mailing to: poly-request@siam.org

or to: listproc@nist.gov

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<http://www.math.ohio-state.edu/JAT/DATA/OPSFNET/opsfnet.html>

<http://math.nist.gov/opsfnet/archive>

WWW home page of this Activity Group:

<http://math.nist.gov/opsf/>

Information on joining SIAM and this activity group: service@siam.org

The elected Officers of the Activity Group (2008-2010) are:

Francisco J. Marcellán , Chair

Peter A. Clarkson, Vice Chair

Daniel W. Lozier, Secretary

Peter A. McCoy, Program Director

The appointed officers are:

Diego Dominici, OP-SF NET co-editor

Martin Muldoon, OP-SF NET co-editor

Bonita Saunders, Webmaster