

OP - SF NET - Volume 18, Number 6 – November 15, 2011

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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

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Calendar of Events:

December 4-6, 2011

National Conference on Ramanujan's Work in the Field of Hypergeometric Series and its Applications, Jaunpur, India
http://www.ams.org/meetings/calendar/2011_dec4-6_jaunpur.html

December 12-16, 2011

ICREA Conference on Approximation Theory and Fourier Analysis, Barcelona, Spain
<http://www.crm.cat/icreaapproximation/>

February 20-24, 2012

Conference on Superintegrability, Exact Solvability, and Special Functions, Centro Internacional de Ciencias A.C., Cuernavaca, Mexico, 20-24 February 2012.
<http://www.cicc.unam.mx/activities/2012/superinte.html>

May 17-19, 2012

International Conference on Applied Mathematics and Approximation Theory – AMAT 2012, Ankara, Turkey (Celebrating the 60th birthday of Professor George A. Anastassiou)
<http://amat2012.etu.edu.tr/>

May 29 – June 1, 2012

Hypergeometric series and their generalizations in algebra, geometry, number theory and physics, Paris, France.
<http://www.liafa.jussieu.fr/~lovejoy/hypergeometric.html>

June 11 -15, 2012

International Symposium on Orthogonal Polynomials and Special Functions — a Complex Analytic Perspective, Copenhagen, Denmark 18.4 #2
<http://www.matdat.life.ku.dk/~henrikp/osca2012/>

June 25-29, 2012

AIM Workshop: Hypergeometric Motives, International Centre for Theoretical Physics, Trieste, Italy
<http://aimath.org/ARCC/workshops/hypermotives.html>

June 28 – July 3, 2012

Eighth International Conference on Mathematical Methods for Curves and Surfaces, Oslo, Norway
www.ifi.uio.no/~cagd/2012

July 4-6, 2012

Workshop "Numerical Software: Design, Analysis and Verification" Santander, Spain 18.6 #1
<http://personales.unican.es/segurajj/numsoft12>

July 9-13, 2012

SIAM Annual Meeting, Minneapolis, Minnesota, USA
<http://www.siam.org/meetings/an12/>

September 3-7, 2012

International Conference on Differential Equations, Difference Equations and Special Functions in memory of Professor Panayiotis D. Siafarikas, Patras, Greece.
<http://www.icddesf.upatras.gr/>

July 8-12, 2013

SIAM Annual Meeting, San Diego, California, USA (including OPSF “track”) 18.5 #3
<http://www.siam.org/meetings/an13/>

Topic #1 ----- OP-SF NET 18.6 ----- November 15, 2011

From: Javier Segura javier.segura@unican.es
Subject: Santander Workshop on Numerical Software

The workshop "Numerical Software: Design, Analysis and Verification" will take place in Santander (Spain) from Wednesday, July 4 until Friday, July 6 2012.

This workshop, organized by A. Gil, J. Segura and N.M. Temme, aims to review and discuss recent advances and research trends in the design, analysis and verification of numerical software for a variety of mathematical problems.

The workshop is organized in close association with 2012 meeting of the IFIP working group on numerical software (<http://www.nsc.liu.se/wg25>), that will be held in Santander (2-3 July).

The program consists of invited and contributed talks.

Confirmed Speakers are:

- * Annie Cuyt (U. Antwerp, Belgium)
- * Daniel W. Lozier (NIST, USA)
- * Jean-Michel Müller (ENS Lyon, France)
- * Nathalie Revol (ENS Lyon, France)
- * William Van Snyder (Jet Propulsion Laboratory, USA)

Submission Deadlines:

February 1, 2012: Contributed session proposals

April 1, 2012: Abstracts for contributed talks and posters

For further details, please visit

<http://personales.unican.es/segurajj/numsoft12>

Topic #2 ----- OP-SF NET 18.6 ----- November 15, 2011

From: Tom Koornwinder T.H.Koornwinder@uva.nl
Subject: Henrik De Bie awarded first Clifford Prize

Hendrik De Bie of Ghent University has been selected as the recipient of the first Clifford Prize for his outstanding mathematical research achievements in the fields of harmonic and Clifford analysis with applications in theoretical physics.

More information is given by Eckhard Hitzer in the Mathematics People section in Notices Amer. Math. Soc., October 2011, p 1299:

(<http://www.ams.org/notices/201109/>).

Hendrik De Bie's home page is at

<http://cage.ugent.be/~hdebie/>.

Topic #3 ----- OP-SF NET 18.6 ----- November 15, 2011

From: Tom Koornwinder T.H.Koornwinder@uva.nl
Subject: Additions to formulas in Koekoek-Lesky-Swarttouw

I am a frequent user of Chapters 9 and 14 in the book R. Koekoek, P.A. Lesky and R.F. Swarttouw, Hypergeometric orthogonal polynomials and their q-analogues, Springer-Verlag, 2010 (Springer also offers the book electronically in pdf). These chapters together form the (slightly extended) successor of the report R. Koekoek and R.F. Swarttouw, The Askey-scheme of hypergeometric orthogonal polynomials and its q-analogue, Report 98-17, Faculty of Technical Mathematics and Informatics, Delft University of Technology, 1998; <http://aw.twi.tudelft.nl/~koekoek/askey/>.

These chapters focus on a limited but fundamental collection of formulas (like (q-)hypergeometric expressions, orthogonality relations, second order differential or (q-)difference eigenvalue equation) which are given for each family of orthogonal polynomials in the (q-)Askey scheme. Of course, the user will occasionally need other formulas for these OP's which are not included in these chapters. For some time I have formed the habit of collecting such formulas in a file and adding a reference or sketching a short proof for the formula. Of course, the resulting collection is quite arbitrary. Still I have now made my present collection public on my homepage, see <http://staff.science.uva.nl/~thk/art/informal/> It is my intention to extend it gradually.

In this connection see also Dmitry Karp's discussion item "Searchable wiki-style knowledge base of formulas for special functions" in OP-SF NET 18.4, Topic #5. My informal paper may be a tiny contribution to what Dmitry proposes, although it does not meet most of his requirements.

Topic #4 ----- OP-SF NET 18.6 ----- November 15, 2011

From: Leiba Rodman lxrodm@math.wm.edu
Subject: LAA Special Issue on Matrix Functions

LINEAR ALGEBRA AND ITS APPLICATIONS
CALL FOR PAPERS
Special Issue on Matrix Functions

Matrix functions can be broadly defined as matrices understood as changing quantities rather than given and constant. As such, the study of matrix functions encompasses a large part of linear algebra and its applications. The need for matrix functions is apparent in many applications in mathematics, sciences, and engineering, for instance systems of n order linear differential equations with constant coefficients, and (mechanical or electrical) vibrating systems.

LAA has previously published a special issue devoted to the field of matrix functions; see Vol. 137-138, 1990 (J. A. Ball, L. Rodman, P. Van Dooren, editors). Because the last years witnessed a strong increase of research interest in the area of matrix functions we feel that it is time to reflect again on the field. This special issue is devoted to theoretical studies and applications of matrix functions on all their aspects. Its goals are to highlight recent advances and developments, outstanding open problems, and applications of matrix functions, on the many facets, techniques, and results of this field. It will be open to all papers with significant new results where matrix functions play an important role and problems of linear algebraic nature are presented. Survey papers that illustrate several interconnected aspects of the theme of matrix functions and their applications are highly encouraged, as are research problems articles.

Areas and topics of interest for this special issue include, but are not limited to:

- Methods and theory for
 - Matrix polynomials
 - Rational matrix functions
 - Analytic and meromorphic matrix functions Matrix exponential, logarithm, square root, and others
 - Functions of structured matrices
 - Functions of large and sparse matrices
 - Functions of matrices times a vector
 - Conditioning and perturbation
 - Interpolation
- Applications in
 - Linear dynamical systems and ODE solvers
 - Operator theory
 - Singular systems
 - Canonical systems of differential equations
 - Integral equations
 - Network analysis
 - Control theory
 - Model reduction
 - Domain decomposition
 - Mathematical physics

The deadline for submission of papers is July 31, 2012, and the special issue is expected to be published in 2013. Papers should be submitted to the responsible editor-in-chief V. Mehrmann, choosing the special issue "Matrix Functions", through the electronic submission system of LAA at <http://ees.elsevier.com/laa> .

They must meet the publication standards of LAA and will be refereed in the usual way. The editors for this special issue of LAA are:

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The responsible editor-in-chief for the special issue is Volker Mehrmann
(mehrmann@math.tu-berlin.de).

Topic #5 ----- OP-SF NET 18.6 ----- November 15, 2011

From: OP-SF NET Editors
Subject: Special issues of Journal of Approximation Theory

The June 2011 issue (vol 163, no 6) of Journal of Approximation Theory features an article “In memoriam Franz Peherstorfer, July 26, 1959 – November 27, 2009”, by András Kroó, Paul Nevai and Vilmos Totik at pages 689-706. The article includes reminiscences from Clemens Inninger, Paco Marcellán, Ionela Moale, Klaus Schiefermayr, Barry Simon, Christoph Stroh and Peter Yuditskii as well as from the authors. The issue also includes two articles “Explicit min-max polynomials on the disc” and “An explicit class of min-max polynomials on the ball and on the sphere” by [Ionela Moale](#) and Franz Peherstorfer as well as the following articles dedicated to the memory of Franz Peherstorfer:

Vilmos Totik, The norm of minimal polynomials on several intervals;

Andrei Martínez-Finkelshtein and Barry Simon, Asymptotics of the L2 norm of derivatives of OPUC;

U. Fidalgo Prieto and G. López Lagomasino, Nikishin systems are perfect. The case of unbounded and touching supports.

The July 2011 issue (vol 163, no 7), begins with a brief account by Walter Van Assche of the international conference on Orthogonal Polynomials, Special Functions and Applications held at the Katholieke Universiteit Leuven in Belgium during the week of 20–25 July, 2009. "... There were 151 participants from 30 countries for this edition: Spain, with 28 people, had the largest number of participants, followed by the host country Belgium (23 participants) and the United States (19 participants). The program included 13 plenary speakers and 12 parallel sessions with about 80 communications. This special issue contains papers that were presented at the conference and which are within the scope of approximation theory; they were all handled and refereed according to JAT's strict standards. One particularly interesting paper is by Franz Peherstorfer. Little did we realize that it was Franz' last participation at an international conference. ..." The articles are:

F. Peherstorfer, Orthogonal polynomials on several intervals: Accumulation points of recurrence coefficients and of zeros

Wolter Groenevelt and Erik Koelink, The indeterminate moment problem for the q -Meixner polynomials

Andreas Lasarow, [More on a class of extremal solutions of a moment problem for rational matrix-valued functions in the nondegenerate case](#)

Ana F. Loureiro and P. Maroni, Quadratic decomposition of Laguerre polynomials via lowering operators

D.S. Lubinsky, Universality in the bulk holds close to given points

Topic #6 ----- OP-SF NET 18.6 ----- November 15, 2011

From: Diego Dominici dominicd@newpaltz.edu
Subject: Review of Barry Simon's "Szegő's Theorem ..."

Szego's Theorem and Its Descendants: Spectral Theory for L^2 Perturbations of Orthogonal Polynomials

Barry Simon

Cloth | 2010 | \$110.00 / £75.00 | ISBN: 9780691147048

720 pp. | 6 x 9 | 8 line illus.

eBook | 2010 | \$110.00 | ISBN: 9781400837052

Princeton University Press, 2010: further information at

<http://press.princeton.edu/titles/9377.html>

See also the author's web site:

<http://www.math.caltech.edu/Szego.html>

Review of Barry Simon's
**Szegő's Theorem and Its Descendants: Spectral Theory for L^2
 Perturbations of Orthogonal Polynomials**

This book presents a comprehensive overview of the sum rule approach to spectral analysis of orthogonal polynomials, which derives from Gábor Szegő's classic 1915 theorem and its 1920 extension.

Let $d\mu$ be a measure supported on the unit circle $\partial\mathbb{D}$, given by

$$d\mu(\theta) = w(\theta) \frac{d\theta}{2\pi} + d\mu_s.$$

If $d\mu_s = 0$, we define

$$c_k = \int_{\partial\mathbb{D}} e^{-ik\theta} w(\theta) \frac{d\theta}{2\pi}$$

and

$$D_n = \det \begin{bmatrix} c_0 & c_1 & \cdots & c_n \\ c_{-1} & c_0 & \cdots & c_{n-1} \\ \vdots & \vdots & \ddots & \vdots \\ c_{-n} & c_{-n+1} & \cdots & c_0 \end{bmatrix}.$$

Szegő's Theorem states that if $w(\theta) \geq 0$ and

$$\int_{\partial\mathbb{D}} w(\theta) \frac{d\theta}{2\pi} < \infty,$$

then

$$\lim_{n \rightarrow \infty} \frac{D_{n+1}}{D_n} = \exp \int_{\partial\mathbb{D}} \log [w(\theta)] \frac{d\theta}{2\pi}. \quad (1)$$

We define the monic orthogonal polynomials on the unit circle (OPUC) $\Phi_n(z)$ by

$$\int_{\partial\mathbb{D}} \bar{z}^k \Phi_n(z) d\mu(z) = 0, \quad k = 0, 1, \dots, n-1,$$

where we now allow $d\mu_s \neq 0$. Verblunsky's form of Szegő's Theorem is

$$\prod_{n=0}^{\infty} (1 - |\alpha_n|^2) = \exp \int_{\partial\mathbb{D}} \log [w(\theta)] \frac{d\theta}{2\pi}, \quad (2)$$

where $\alpha_n = -\overline{\Phi_{n+1}(0)}$.

The book is organized as follows. Chapter 1 contains some results on Spectral Theory and the statements of Szegő's Theorem (1) and (2). Chapter 2 is devoted to the proof of (2) and some extensions, all in the context of OPUC.

Chapter 3 formulates and proves the analogs of Szegő's Theorem for orthogonal polynomials on the real line (OPRL), including the Killip-Simon Theorem for Jacobi matrices. Chapter 4 presents the theory of matrix-valued orthogonal polynomials on the real line (MOPRL) and a matrix analog of the Killip-Simon Theorem.

Chapter 5 is a wealth of information on OPUC and OPRL with periodic coefficients. The proofs of the analog of Szegő's and the Killip-Simon Theorem for OPUC and OPRL with periodic coefficients is in Chapter 8, after some discussion on Toda Flows (Chapter 6) and Right Limits (Chapter 7).

Chapter 9 is dedicated to OPUC and OPRL whose measures are supported on finite gap sets of the form

$$\bigcup_{k=1}^{l+1} [a_j, b_j], \quad a_1 < b_1 < a_2 < \cdots < b_{l+1}.$$

Most of the material in this chapter has been published only in the last few years, or is still in press. Finally, Chapter 10 discusses some work on Bethe-Cayley Trees.

All this formidable material is presented in a very precise and elegant way, accessible to the non-specialist. The Remarks spread through the book and the Remarks and Historical Notes at the end of each section (!) allow the reader a deeper understanding of the topic discussed and its development.

There is no doubt that this book is a must have in the library of any researcher working in areas related to the theory of Orthogonal Polynomials.

Diego Dominici

Topic #7 ----- OP-SF NET 18.6 ----- November 15, 2011

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 mostly during September and October 2011.

<http://arxiv.org/abs/1109.0332>

Pade approximants for functions with branch points - strong asymptotics of Nuttall-Stahl polynomials

[Alexander I. Aptekarev](#), [Maxim L. Yattselev](#)

<http://arxiv.org/abs/1109.0485>

Limit relations between q -Krall type orthogonal polynomials

[R. Álvarez-Nodarse](#), [R. S. Costas-Santos](#)

<http://arxiv.org/abs/1109.1169>

Bézier representation of the constrained dual Bernstein polynomials

[Stanisław Lewanowicz](#), [Paweł Woźny](#)

<http://arxiv.org/abs/1109.1387>

Explicit formula for generalization of Poly-Bernoulli numbers and polynomials with a, b, c parameters

[Hassan Jolany](#)

<http://arxiv.org/abs/1109.2193>

From double quantum Schubert polynomials to k -double Schur functions via the Toda lattice

[Thomas Lam](#), [Mark Shimozono](#)

<http://arxiv.org/abs/1109.2316>

On common roots of random Bernoulli polynomials

[Gady Kozma](#), [Ofer Zeitouni](#)

<http://arxiv.org/abs/1109.2339>

How to recognize polynomials in higher order Sobolev spaces

[Bogdan Bojarski](#), [Lizaveta Ihnatsyeva](#), [Juha Kinnunen](#)

<http://arxiv.org/abs/1109.4660>

An explicit formula for the linearization coefficients of Bessel polynomials

[Mohamed Jalel Atia](#), [Jiang Zeng](#)

<http://arxiv.org/abs/1110.0580>

An Introduction to the q -Laguerre-Hahn Orthogonal q -Polynomials

[Abdallah Ghressi](#), [Lotfi Khériji](#), [Mohamed Ihsen Tounsi](#)

<http://arxiv.org/abs/1110.1484>
Bernoulli type polynomials on Umbral Algebra
Rahime Dere, Yilmaz Simsek

<http://arxiv.org/abs/1110.1554>
Orthogonal Polynomials on the Sierpinski Gasket
Kasso A. Okoudjou, Robert S. Strichartz, Elizabeth K. Tuley

<http://arxiv.org/abs/1110.1902>
d-Orthogonal polynomials and $su(2)$
Vincent X. Genest, Luc Vinet, Alexei Zhedanov

<http://arxiv.org/abs/1110.2025>
Polynomials Associated with the Higher Derivatives of the Airy Functions $Ai(z)$ and $Ai'(z)$
Bernard J. Laurenzi

<http://arxiv.org/abs/1110.2047>
Unification of the three families of generalized Apostol type polynomials on the Umbral algebra
Rahime Dere, Yilmaz Simsek

<http://arxiv.org/abs/1110.2187>
Extended Joseph polynomials, quantized conformal blocks, and a q-Selberg type integral
R. Rimányi, V. Tarasov, A. Varchenko, P. Zinn-Justin

<http://arxiv.org/abs/1110.2369>
A generalization of the Zernike circle polynomials for forward and inverse problems in diffraction theory
Augustus Janssen

<http://arxiv.org/abs/1110.2839>
Uniform Asymptotic Expansions for the Discrete Chebyshev Polynomials
J.H. Pan, R. Wong

<http://arxiv.org/abs/1110.3958>
Rationally-extended radial oscillators and Laguerre exceptional orthogonal polynomials in kth-order SUSYQM
C. Quesne

<http://arxiv.org/abs/1110.5308>
Congruences concerning Jacobi polynomials
Khodabakhsh Hessami Pilehrood, Tatiana Hessami Pilehrood

<http://arxiv.org/abs/1110.6475>
Para-Krawtchouk polynomials on a bi-lattice and a quantum spin chain with perfect state transfer
Luc Vinet, Alexei Zhedanov

<http://arxiv.org/abs/1110.6477>
Dual -1 Hahn polynomials and perfect state transfer
Luc Vinet, Alexei Zhedanov

<http://arxiv.org/abs/1110.6620>
On the characteristic polynomial of Cartan matrices and Chebyshev polynomials
Pantelis A. Damianou

<http://arxiv.org/abs/1110.3740>
Gauge Theories and Macdonald Polynomials
Abhijit Gadde, Leonardo Rastelli, Shlomo S. Razamat, Wenbin Yan

<http://arxiv.org/abs/1110.5406>
Integrals Involving Associated Laguerre Polynomials
Muthiah Annamalai, Michael Vasilyev

<http://arxiv.org/abs/1109.2409>
General moments of matrix elements from circular orthogonal ensembles
Sho Matsumoto

<http://arxiv.org/abs/1110.1456>
Limits of elliptic hypergeometric biorthogonal functions
Fokko J. van de Bult, Eric M. Rains

<http://arxiv.org/abs/1110.1458>
Limits of multivariate elliptic hypergeometric biorthogonal functions
Fokko J. van de Bult, Eric M. Rains

<http://arxiv.org/abs/1110.1460>
Limits of multivariate elliptic beta integrals and related bilinear forms
Fokko J. van de Bult, Eric M. Rains

<http://arxiv.org/abs/1109.0613>
The c-function expansion of a basic hypergeometric function associated to root systems
Jasper V. Stokman

<http://arxiv.org/abs/1109.1123>
Two multivariate quadratic transformations of elliptic hypergeometric integrals
Fokko Joppe van de Bult

<http://arxiv.org/abs/1109.1645>
Hypergeometric solutions to Schrödinger equations for the quantum Painlevé equations
Hajime Nagoya

<http://arxiv.org/abs/1109.3362>
Traces of Hecke operators in level 1 and Gaussian hypergeometric functions
Jenny G. Fuselier

<http://arxiv.org/abs/1109.4659>

Selberg Integrals, Super hypergeometric functions and Applications to β -Ensembles of Random Matrices
Patrick Desrosiers, Dang-Zheng Liu

<http://arxiv.org/abs/1109.6560>

Partial theta functions and mock modular forms as q-hypergeometric series
Kathrin Bringmann, Amanda Folsom, Robert C. Rhoades

<http://arxiv.org/abs/1110.6619>

Landen inequalities for zero-balanced hypergeometric functions
Slavko Simić, Matti Vuorinen

<http://arxiv.org/abs/1110.6759>

π -formulae implied by two hypergeometric series identities
Chuan Wei, Dianxuan Gong, Jianbo Li

<http://arxiv.org/abs/1110.0210>

The Epsilon Expansion of Feynman Diagrams via Hypergeometric Functions and Differential Reduction
S.A. Yost, V.V. Bytev, M.Yu. Kalmykov, B.A. Kniehl, B.F.L. Ward

<http://arxiv.org/abs/1110.0703>

Hypergeometric solutions of the closed eigenvalue problem on Heisenberg Isoperimetric Profiles
Francescopaolo Montefalcone

<http://arxiv.org/abs/1110.1456>

Limits of elliptic hypergeometric biorthogonal functions
Fokko J. van de Bult, Eric M. Rains

<http://arxiv.org/abs/1110.1458>

Limits of multivariate elliptic hypergeometric biorthogonal functions
Fokko J. van de Bult, Eric M. Rains

<http://arxiv.org/abs/1110.4699>

Turán type inequalities for Tricomi confluent hypergeometric functions
Árpád Baricz, Mourad E.H. Ismail

<http://arxiv.org/abs/1109.3674>

Algebrability, non-linear properties, and special functions
Artur Bartoszewicz, Szymon Glab, Daniel Pellegrino, Juan B. Seoane-Sepúlveda

<http://arxiv.org/abs/1109.5957>

Generalizing Ramanujan's J Functions
Jerome Malenfant

<http://arxiv.org/abs/1109.1753>

Factoring derivatives of functions in the Nevanlinna and Smirnov classes

Konstantin M. Dyakonov

<http://arxiv.org/abs/1109.1772>

Zeros of analytic functions, with or without multiplicities

Konstantin M. Dyakonov

<http://arxiv.org/abs/1109.3408>

Exponential decay of Laplacian eigenfunctions in domains with branches

Andrey Delitsyn, Binh-Thanh Nguyen, Denis S. Grebenkov

<http://arxiv.org/abs/1109.3486>

Confluent Heun functions in gauge theories on thick braneworlds

M. S. Cunha, H. R. Christiansen

<http://arxiv.org/abs/1110.0655>

Direct Systems of Spherical Functions and Representations

Matthew Dawson, Gestur Olafsson, Joseph A. Wolf

<http://arxiv.org/abs/1110.5121>

On Schrödinger equation with potential $U = -\alpha r^{-1} + \beta r + kr^2$ and the bi-confluent Heun functions theory

E. Ovsyuk, M. Amirfachrian, O. Veko

<http://arxiv.org/abs/1110.6147>

An Analytical Evaluation For The Integral Of Two Spherical Bessel Functions With An Additional Exponential And Polynomial Factor

R. Mehrem

<http://arxiv.org/abs/1110.6310>

Integrals of Bessel functions

D. Babusci, G. Dattoli, B. Germano, M. R. Martinelli, P. E. Ricci

<http://arxiv.org/abs/1110.6356>

Cylindric Macdonald functions and a deformation of the Verlinde algebra

Christian Korff

<http://arxiv.org/abs/1110.6508>

The Application of Weierstrass elliptic functions to Schwarzschild Null Geodesics

G. W. Gibbons, M. Vyska

<http://arxiv.org/abs/1109.2224>

Negative values of the Riemann zeta function on the critical line

Justas Kalpokas, Maxim A. Korolev, Jörn Steuding

<http://arxiv.org/abs/1109.3855>

Large gaps between consecutive maxima of the Riemann zeta-function on the critical line

S. H. Saker, J. Steuding

<http://arxiv.org/abs/1109.6335>

Evaluation of Riemann Zeta function on the Line $\Re(s) = 1$ and Odd Arguments
Srinivasan Arunachalam

<http://arxiv.org/abs/1109.6790>

Riemann's Zeta Function. Numerical Evaluation via its Alternating Relative $\eta(s)$
Renaat Van Malderen

<http://arxiv.org/abs/1109.0658>

Fractional Euler-Lagrange differential equations via Caputo derivatives
Ricardo Almeida, Agnieszka B. Malinowska, Delfim F. M. Torres

Topic #8 ----- OP-SF NET 18.6 ----- November 15, 2011

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 130 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, an electronic newsletter, and SIAM-OPSF (OP-SF Talk), a listserv, as a free public service; membership in SIAM is not required. OP-SF NET is transmitted periodically through a post to OP-SF Talk. The OP-SF Net Editors are Diego Dominici (dominicd@newpaltz.edu) and Martin Muldoon (muldoon@yorku.ca).

Back issues of OP-SF NET can be obtained at the WWW addresses:

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

<http://math.nist.gov/~DLozier/OPSFnet/>

SIAM-OPSF (OP-SF Talk), which was recently moved to a SIAM server, facilitates communication among members and friends of the Activity Group. To see the archive of all messages, go to <http://lists.siam.org/mailman/listinfo/siam-OPSF>. To contribute an item to the discussion, send email to siam-opsf@siam.org. The moderators are Bonita Saunders (bonita.saunders@nist.gov) and Diego Dominici (dominicd@newpaltz.edu).

SIAM has several categories of membership, including low-cost categories for students and residents of developing countries. In addition, there is the possibility of reduced rate membership for the members of several societies with which SIAM has a reciprocity agreement; see

<http://www.siam.org/membership/individual/reciprocal.php>

For current information on SIAM and Activity Group membership, contact:

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email: service@siam.org

WWW : <http://www.siam.org>

<http://www.siam.org/membership/outreachmem.htm>

Topic #9 ----- OP-SF NET 18.6 ----- November 15, 2011

From: OP-SF NET Editors

Subject: Submitting contributions to OP-SF NET and SIAM-OPSF (OP-SF Talk)

To contribute a news item to OP-SF NET, send email to one of the OP-SF Editors

dominid@newpaltz.edu or muldoon@yorku.ca .

Contributions to OP-SF NET 19.1 should be sent by January 1, 2012.

OP-SF NET is an electronic newsletter 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, and job openings. OP-SF NET is transmitted periodically through a post to SIAM-OPSF (OP-SF Talk).

SIAM-OPSF (OP-SF Talk) is a listserv of the SIAM Activity Group on Special Functions and Orthogonal Polynomials, which facilitates communication among members, and friends of the Activity Group. See the previous Topic. To post an item to the listserv, send email to siam-opsf@siam.org .

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 (2011-2013) are:

Chair: Francisco Marcellán

Vice Chair: Jeff Geronimo

Program Director: Diego Dominici

Secretary: Peter Clarkson

The appointed officers are:

Diego Dominici, OP-SF NET co-editor and OP-SF Talk moderator

Martin Muldoon, OP-SF NET co-editor

Bonita Saunders, Webmaster and OP-SF Talk moderator