BRÅKET

Information om seminarier och högre undervisning i matematiska ämnen i Stockholmsområdet

NR 34 **FREDAGEN DEN 18 OKTOBER 2002**

BRÅKET

Veckobladet från Institutionen för matematik vid Kungl Tekniska Högskolan och Matematiska institutionen vid Stockholms universitet

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Sista manustid för nästa nummer:
Torsdagen den 24 oktober
kl. 13.00.

New Directions in Mathematical Systems Theory and Optimization

Ett symposium med detta namn äger rum vid KTH den 15 – 16 november 2002. Se sidorna 8 – 9.

Money, jobs: Se sidorna 11 – 12.

SEMINARIER

Fr 10 – 18 kl. 15.15. Guest Lecture. Professor Tibor Toró, University of Timişoara, Roumania, Foreign Member of the Hungarian Academy of Sciences: *János Bolyai (1802 – 1860) as a forerunner of modern physics.* Sal FB53, Stockholms centrum för fysik, astronomi, bioteknik (SCFAB, AlbaNova). Se Bråket nr 33 sidan 6.

The lecture of Professor Toró is given on the occasion of the 200th anniversary of the birth of János Bolyai.

Må 10 – 21 kl. 13.15 – 15.00. Algebra- och geometriseminarium. Pelle Salomonsson: *The language of multitrees.* Rum 306, hus 6, Matematiska institutionen, SU, Kräftriket. Se sidan 3.

Må 10 – 21 kl. 13.15 – 15.00. Seminar in Analysis and its Applications. Harold Shapiro: *Cyclic vectors of the backward shift operator, and (classical and generalized) analytic continuation.* Seminarierum 3733, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7. Se sidan 4.

Må 10 – 21 kl. 15.00. Licentiatseminarium i matematisk statistik. *(Observera dagen, tiden och lokalen!)* **Marianne Mähle Schmidt** presenterar sin licentiatavhandling: *A Bayesian approach for sequential updating of dose-response relations in radiation therapy.* Inbjuden diskussionsinledare: **Esa Läärä,** Uleåborg. Sal 14, hus 5, Matematiska institutionen, SU, Kräftriket. Se sidan 6.

Må 10 – 21 kl. 15.15 – 17.00. Seminarium i matematisk statistik. Professor emeritus Torbjörn Thedéen, Centrum för säkerhetsforskning, KTH: *Prognoser i Sveriges Televisions valvaka.* Seminarierum 3733, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7.

Fortsättning på nästa sida.

Seminarier (fortsättning)

Ti 10–22 kl. 10.00–11.00. Plurikomplexa seminariet. *(Observera tiden och lokalen!)* **Judith Brinkschulte,** Göteborg: *About the non-existence of Levi-flat submanifolds in compact symmetric spaces.* Seminarierum 3721, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7. Se sidan 4.

Ti 10–22 kl. 11.30–12.30. Plurikomplexa seminariet. *(Observera tiden och lokalen!)* **Robert Berman,** Göteborg: *Bergman kernels and local holomorphic Morse inequalities.* Seminarierum 3721, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7. Se sidan 5.

Ti 10–22 kl. 14.00–15.00. Mittag-Leffler Seminar. Alexander Pushnitski, Loughborough: *Trace formulae for the Stark operator.* Institut Mittag-Leffler, Auravägen 17, Djursholm. Se sidan 5.

Ti 10–22 kl. 15.30–16.30. Mittag-Leffler Seminar. Michael Levitin, Edinburgh: *Spectral pollution and second-order relative spectra.* Institut Mittag-Leffler, Auravägen 17, Djursholm. Se sidan 7.

On 10–23 kl. 10.15–12.00. Didaktiskt seminarium. Susanne Gennow, Danderyds gymnasium: *Kängurutävlingen — matematikens hopp.* Rum 306, hus 6, Matematiska institutionen, SU, Kräftriket. Se sidan 7.

On 10–23 kl. 10.15–12.00. Seminarium i diskret matematik. Faina I. Solov'eva, Novosibirsk: *Steiner triple systems bi-embedded in nonorientable surfaces.* Seminarierum 3733, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7. Se Bråket nr 33 sidan 5.

On 10–23 kl. 10.30. Logikseminariet Stockholm-Uppsala. Lars-Åke Lindahl: *PRIMES is in P. (Referat av en artikel av M. Agrawal, N. Kayal, N. Saxena.)* Sal 2:315, Matematiska institutionen, Polacksbacken, Uppsala universitet. Se sidan 7.

On 10–23 kl. 13.15–14.15. Seminarium i analys och dynamiska system. Uzy Smilansky, Rehovot: *The spectrum of the lengths of periodic orbits in billiards.* Seminarierum 3721, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7. Se sidan 9.

On 10–23 kl. 15.00. Presentation av examensarbete i matematik. Andreas Enblom: *Discrete spectrum under compact perturbations.* Seminarierum 3733, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7.

On 10–23 kl. 15.15–16.00. Seminarium i matematik och fysik vid Mälardalens högskola (Västerås). Johan Wästlund, Linköpings universitet: *Analys av kortspelet whist.* Lektionssal T2-015, Mälardalens högskola, Västerås. Se Bråket nr 33 sidan 6.

To 10–24 kl. 10.15. Licentiatseminarium i mekanik. Anders Ahlström, Mekanik, KTH: *Simulating Dynamical Behaviour of Wind Power Structures.* Sal D32, KTH, Lindstedtsvägen 5, b.v.

To 10–24 kl. 11.15–12.30. Algebraic Geometry Seminar. Jon Eivind Vatne, Universitetet i Bergen: *Multiple structures in projective geometry.* Seminarierum 3733, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7. Se sidan 10.

Fortsättning på nästa sida.

Seminarier (fortsättning)

To 10 – 24 kl. 14.00 – 15.00. Mittag-Leffler Seminar. Yulia Karpeshina, Birmingham, Alabama: *On the Schrödinger operator with a periodic electromagnetic potential in two dimensions.* Institut Mittag-Leffler, Auravägen 17, Djursholm. Se sidan 7.

To 10 – 24 kl. 15.30 – 16.30. Mittag-Leffler Seminar. Gunter Stolz, Birmingham, Alabama: *Fractional moment methods for the Anderson model.* Institut Mittag-Leffler, Auravägen 17, Djursholm. Se sidan 9.

To 10 – 24 kl. 16.15. Populära kollokviet. Lars Holst: *Permutationer från "kinesrestaurantprocessen".* Sal D2, KTH, Lindstedtsvägen 5, b.v. Före kollokviet med början kl. 15.45 serveras kaffe med tilltugg i pausrummet, Lindstedtsvägen 25, plan 4. Se Bråket nr 33 sidan 7.

Fr 10 – 25 kl. 10.15 – 12.00. Valda problem i geometri. Sergei Merkulov: *Quantum complex and symplectic manifolds?* Rum 306, hus 6, Matematiska institutionen, SU, Kräftriket. Se sidan 5.

Må 10 – 28 kl. 10.30. Algebraseminarium. *(Observera tiden!)* **Santiago Zarzuela,** Universitat de Barcelona: *Linearization of local cohomology modules.* Rum 306, hus 6, Matematiska institutionen, SU, Kräftriket. Se sidan 6.

Må 10 – 28 kl. 15.15 – 16.00. Jubileumsseminarieserie på Nada hösten 2002: Återblickar och framtidsblickar. Magnus Persson: *Några aspekter på "Grid Computing".* Sal E2, KTH, Lindstedtsvägen 3, b.v. Se sidan 10.

Må 10 – 28 kl. 15.15 – 16.00. Seminarium i matematisk statistik. Jonathan Wendin presenterar sitt examensarbete: *Estimation of the Spectral Measure and Tail Dependence Coefficient for Regularly Varying Random Vectors.* Seminarierum 3733, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7. Se sidan 10.

On 10 – 30 kl. 10.15 – 12.00. Seminarium i diskret matematik. Sergey V. Avgustinovich, Novosibirsk: *On ranks and kernels problem of perfect codes. (Joint work with O. Heden and F. I. Solov'eva.)* Seminarierum 3733, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7. Se sidan 9.

ALGEBRA- OCH GEOMETRISEMINARIUM

Pelle Salomonsson: The language of multitrees

Abstract: It is often natural to think of operads in terms of rooted and labelled trees. More generally, the language of trees is useful for analysing "plethysm" and its relation to composition of endofunctors. For Schur operads we need a slightly more complicated sort of trees, called multitrees. They have multiplicities attached to their edges (or what amounts to the same, their vertices). Moreover, it turns out to be necessary to have two sorts of vertices: apart from the ordinary ones also "grafting vertices", corresponding to the fact that one may force two different inputs into a unary degree-two operation, etcetera. These new vertices are mostly to be regarded as a nuisance, but there appears to be good hope that one may often ignore them. Underlying the language of multitrees there is the language of "multisets". That will also be explained in this talk, which is a report on joint work with Torsten Ekedahl.

Tid och plats: Måndagen den 21 oktober kl. 13.15 – 15.00 i rum 306, hus 6, Matematiska institutionen, SU, Kräftriket.

SEMINAR IN ANALYSIS AND ITS APPLICATIONS

Harold Shapiro:
Cyclic vectors of the backward shift operator, and (classical and generalized) analytic continuation

Abstract: A classical theorem of Arne Beurling describes the invariant subspaces of the "shift operator" (i.e. the operator "multiplication by the independent variable") on the Hardy space H^2 of the disk. As a corollary one can, in an effective way, determine whether a given f in H^2 is a cyclic vector for this operator, i.e. whether its polynomial multiples are dense in H^2: this is the case if and only if $\log|f(0)|$ equals the mean value of $\log|f|$ over the unit circumference. For the adjoint of the shift operator (so-called backward shift) the description of the invariant subspaces is of course also provided by Beurling's theorem (they are just the orthogonal complements of those for the shift operator). However, it is a highly nontrivial problem to determine whether a given f is cyclic for the backward shift operator or, what is equivalent, whether or not a given f belongs to some nontrivial subspace of the latter kind. It is easy to give a necessary and sufficient condition for non-cyclicity in terms of a kind of generalized analytic continuation to the exterior of the disk, but since an f which is nowhere continuable in the classical sense very well may possess such a generalized continuation, and there is no known criterion for determining for which f this happens, progress hitherto has been limited to giving various (effectively verifiable) necessary or sufficient conditions. One aim of the present talk is to survey some of these conditions, and also to discuss some more general questions inherent in the notion of generalized analytic continuation. This leads in turn to some new results concerning cyclic vectors for the backward shift operator acting on other Banach spaces of analytic functions. We shall also discuss an unexpected connection of our topic with linear differential equations of infinite order. The talk is intended as a survey, accessible to non-specialists. It corresponds to a few chapters of the monograph *Generalized Analytic Continuation* by William Ross and myself (University Lecture Series, vol. 25, Amer. Math. Soc., 2002).

Tid och plats: Måndagen den 21 oktober kl. 13.15 – 15.00 i seminarierum 3733, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7.

PLURIKOMPLEXA SEMINARIET

Judith Brinkschulte:
About the non-existence of Levi-flat submanifolds in compact symmetric spaces

Abstract: The non-existence of smooth Levi-flat real hypersurfaces in complex projective spaces was proved by Siu. The interest in such a non-existence result was motivated by problems in dynamical systems on $\mathbb{P}^n$. Our aim is to generalize this result to Levi-flat CR manifolds of arbitrary codimension.

We can show the following theorem: Let X be an irreducible compact Hermitian symmetric manifold of complex dimension n whose bisectional curvature is $(s-1)$-nondegenerate. Then in X there exists no smooth Levi-flat CR manifold M with real codimension $n-s$ and CR dimension $s \geq 2$, such that the determinant $\mathbb{C}$-line bundle of $N^{1,0}_{M,X}$ is smoothly trivial.

Tid och plats: Tisdagen den 22 oktober kl. 10.00 – 11.00 i seminarierum 3721, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7.

PLURIKOMPLEXA SEMINARIET

Robert Berman:
Bergman kernels and local holomorphic Morse inequalities

Abstract: Let X be a complex Hermitian manifold with a given holomorphic line bundle L. Demailly's holomorphic Morse inequalities yield asymptotic bounds on the dimensions of the Dolbeault cohomology groups with values in a high power of L, when X is compact. Demailly's inspiration came from Witten's analytical proof of the classical real Morse inequalities, based on supersymmetric quantum mechanics. I will present local versions of Demailly's inequalities valid on any X, regardless of compactness. The proofs, which are elementary, are based on a new approach to Bergman kernel estimates, where the kernels are estimated by a model kernel in $\mathbb{C}^n$. The usual inequalities are obtained after integration of the local ones.

Tid och plats: Tisdagen den 22 oktober kl. 11.30 – 12.30 i seminarierum 3721, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7.

MITTAG-LEFFLER SEMINAR

Alexander Pushnitski:
Trace formulae for the Stark operator

Abstract: We consider a three-dimensional Stark operator (i.e., a Schrödinger operator with a linear potential) and its perturbation by a smooth compactly supported potential. The corresponding scattering phase has a high energy asymptotic expansion; we discuss explicit formulae for the coefficients of this expansion and derive trace formulae for the scattering phase.

This is a joint work with E. Korotyaev.

Tid och plats: Tisdagen den 22 oktober kl. 14.00 – 15.00 vid Institut Mittag-Leffler, Auravägen 17, Djursholm.

VALDA PROBLEM I GEOMETRI

Sergei Merkulov:
Quantum complex and symplectic manifolds?

Abstract: In a series of lectures starting on October 25 I shall

- report on the recent evidence behind the question (mirror symmetry, deformation theory and theoretical physics);
- review the classical idea of the deformation functor and the recent differential graded extension of that idea, and prove, using some fine results from Kaehler and symplectic geometry, non-obstructedness of the extended deformation functor in the case of Calabi-Yau manifolds and Lefschetz symplectic manifolds;
- argue that the idea of deformation functor is outdated, and make a concrete suggestion on what one should use instead (operadic guide to deformation theory);
- attempt to give working answers to the two questions posed in the title.

Tid och plats: Fredagen den 25 oktober kl. 10.15 – 12.00 i rum 306, hus 6, Matematiska institutionen, SU, Kräftriket.

LICENTIATSEMINARIUM I MATEMATISK STATISTIK

Marianne Mähle Schmidt

presenterar sin licentiatavhandling

A Bayesian approach for sequential updating of dose-response relations in radiation therapy

Inbjuden diskussionsinledare: **Esa Läärä,** Uleåborg.

Abstract: In radiation therapy, the analysis of historical data gives population estimates on various parameters which are useful when designing treatments for future patients. However, if the time lag between the treatment of historical patients and the treatment of new patients is long, this information is not up to date and might even be outdated. It is therefore more important to continuously integrate treatment outcome data by sequential updated feedback to more accurately taylor the treatment of each new patient. Brief descriptions of the radiobiological background and of the statistical tools needed for clinical implementation of such a feedback system are given. The feedback system is implemented by developing a Bayesian approach for sequentially updating radiobiological parameters of dose-response relations which then can be used for calculating optimal curative treatment doses for cancer patients receiving radiation therapy. The model is quantified in terms of the probability of achieving tumor control and the risk of inducing severe injury. Formally the statistical model is specified as a generalized linear model with a log-log link. The underlying model and computational algorithms as well as simulation results from a four parameter radiobiological model showing the effect of sequentially updating the radiation treatment are presented.

Tid och plats: Måndagen den 21 oktober kl. 15.00 i sal 14, hus 5, Matematiska institutionen, SU, Kräftriket.

ALGEBRASEMINARIUM

Santiago Zarzuela:
Linearization of local cohomology modules

Abstract: Let k be a field of characteristic 0 and $R = k[x_1, \ldots, x_n]$ the polynomial ring in n variables. For an ideal $I \subset R$, the local cohomology modules $H^i_I(R)$ are known to be regular holonomic $A_n(k)$-modules. Let k be the field of complex numbers and $X = \mathbf{C}^n$. By the Riemann-Hilbert correspondence there is an equivalence of categories between the category of regular holonomic $\mathcal{D}_X$-modules and the category $\mathrm{Perv}(\mathbf{C}^n)$ of perverse sheaves. Let T be the union of the coordinate hyperplanes in $\mathbf{C}^n$, endowed with the stratification given by the intersections of its irreducible components, and denote by $\mathrm{Perv}^T(\mathbf{C}^n)$ the subcategory of $\mathrm{Perv}(\mathbf{C}^n)$ of complexes of sheaves of finitely dimensional vector spaces on $\mathbf{C}^n$ which are perverse relatively to the given stratification of T. This category has been described in terms of linear algebra by Galligo, Granger and Maisonobe. If M is a local cohomology module $H^i_I(R)$ supported on a monomial ideal, then one can see that the equivalent perverse sheaf belongs to $\mathrm{Perv}^T(\mathbf{C}^n)$. Our main purpose in this talk is to give an explicit description of the corresponding linear structure, in terms of the natural $\mathbf{Z}^n$-graded structure of $H^i_I(R)$. One can also give a topological interpretation of this linear structure, recovering as a consequence the results on the structure of local cohomology modules supported on square-free monomial ideals given by M. Mustata.

Tid och plats: Måndagen den 28 oktober kl. 10.30 i rum 306, hus 6, Matematiska institutionen, SU, Kräftriket.

MITTAG-LEFFLER SEMINAR

Michael Levitin:
Spectral pollution and second-order relative spectra

Abstract: We consider the phenomenon of spectral pollution arising in calculation of spectra of self-adjoint operators by projection methods. We suggest a strategy of dealing with spectral pollution by using the so-called second order relative spectra. The effectiveness of the method is illustrated by a detailed analysis of two model examples, which also show how the standard methods can fail in a spectacular fashion even for simplest problems.

This is a joint work with E. Shargorodsky.

Tid och plats: Tisdagen den 22 oktober kl. 15.30 – 16.30 vid Institut Mittag-Leffler, Auravägen 17, Djursholm.

DIDAKTISKT SEMINARIUM

Susanne Gennow:
Kängurutävlingen — matematikens hopp

Sammanfattning: Vi kommer att beskriva Kängurutävlingen, en matematiktävling för grundskolan, och diskutera de empiriska data som samlats in. En allmän fråga att diskutera är tävlingars roll i matematikundervisningen, deras problem och fördelar.

Tid och plats: Onsdagen den 23 oktober kl. 10.15 – 12.00 i rum 306, hus 6, Matematiska institutionen, SU, Kräftriket.

LOGIKSEMINARIET STOCKHOLM-UPPSALA

Lars-Åke Lindahl: PRIMES is in P
(Referat av en artikel av M. Agrawal, N. Kayal, N. Saxena)

Sammanfattning: I seminariet ges en redogörelse för resultatet att klassen PRIMES är i P, d.v.s. att det finns en polynomiell algoritm för att avgöra om ett tal är ett primtal. Detta resultat väckte en hel del uppseende när det kom i somras.

Tid och plats: Onsdagen den 23 oktober kl. 10.30 i sal 2:315, Matematiska institutionen, Polacksbacken, Uppsala universitet.

MITTAG-LEFFLER SEMINAR

Yulia Karpeshina: On the Schrödinger operator
with a periodic electromagnetic potential in two dimensions

Abstract: We discuss spectral properties of the above operator in the high energy region. Partially they are similar to those of the operator with just an electric potential. However, there are essential differences too, since a magnetic potential is a much stronger perturbation of the Laplacian then an electric potential. To understand these properties we use a "model functions" approach. We construct asymptotic formulae for Bloch eigenvalues, Bloch eigenfunctions, isoenergetic surfaces and the integrated density of states.

Tid och plats: Torsdagen den 24 oktober kl. 14.00 – 15.00 vid Institut Mittag-Leffler, Auravägen 17, Djursholm.

NEW DIRECTIONS IN MATHEMATICAL SYSTEMS THEORY AND OPTIMIZATION

The international symposium *New Directions in Mathematical Systems Theory and Optimization* will take place at the Royal Institute of Technology (KTH) in Stockholm, Sweden, on November 15 – 16, 2002.

There will be a single stream of invited presentations during the two days when the symposium is held. The symposium is being organized on the occasion of Professor Anders Lindquist's 60th birthday, and the speakers represent a wide range of areas where Anders Lindquist has been active. In addition, a banquet will be held in the evening of Saturday, November 16.

We welcome attendees to the symposium. For attendees, there is a registration fee of SEK 1000. The registration deadline is November 1. For further information, see http://www.math.kth.se/optsyst/symposium/.

List of speakers:

- **D. Z. Arov,** Odessa, Ukraine.
- **Tom Banks,** North Carolina State University, USA.
- **Alain Bensoussan,** CNES, France.
- **Vincent Blondel,** Université Catholique de Louvain, Belgium.
- **John Burns,** Virginia Polytechnic Institute and State University, USA.
- **Chris Byrnes,** Washington University, St. Louis, USA.
- **Peter Caines,** Montréal, Canada.
- **Harry Dym,** Weizmann Institute of Science, Rehovot, Israel.
- **Paul Fuhrmann,** Ben-Gurion University of the Negev, Beer-Sheva, Israel.
- **Tryphon Georgiou,** Minneapolis, USA.
- **László Gerencsér,** Hungarian Academy of Sciences, Budapest, Hungary.
- **Michel Gevers,** Université Catholique de Louvain, Belgium.
- **Bill Gragg,** Naval Postgraduate School, Monterey, USA.
- **Sergei Gusev,** St. Petersburg, Russia.
- **Michiel Hazewinkel,** CWI, Amsterdam, The Netherlands.
- **Arthur Krener,** University of California, Davis, USA.
- **Alexander Kurzhansky,** Moscow, Russia.
- **Lennart Ljung,** Linköping University, Sweden.
- **Clyde Martin,** Texas Tech University, USA.
- **Alexandre Megretski,** Massachusetts Institute of Technology, USA.
- **György Michaletzky,** Eötvös Lorand University, Budapest, Hungary.
- **Sanjoy Mitter,** Massachusetts Institute of Technology, USA.
- **Stephen Morse,** Yale University, New Haven, USA.
- **Michele Pavon,** University of Padova, Italy.
- **Giorgio Picci,** University of Padova, Italy.
- **Boris Polyak,** Moscow, Russia.
- **Anders Rantzer,** Lund Institute of Technology, Sweden.
- **Shankar Sastry,** University of California, Berkeley, USA.
- **Olof Staffans,** Åbo Akademi, Finland.
- **Héctor Sussmann,** Rutgers University, Piscataway, USA.
- **Tzyh-Jong Tarn,** Washington University, St. Louis, USA.
- **Jan Willems,** University of Groningen, The Netherlands.
- **Vladimir Yakubovich,** St. Petersburg, Russia.

(Continued on the next page.)

Organizing committee:

- **Anders Forsgren,** KTH (chair).
- **Xiaoming Hu,** KTH.
- **Krister Svanberg,** KTH.
- **Chris Byrnes,** Washington University, St. Louis.
- **Clyde Martin,** Texas Tech University.
- **Anders Rantzer,** Lund Institute of Technology.
- **Yishao Zhou,** Stockholm University.

SEMINARIUM I ANALYS OCH DYNAMISKA SYSTEM

Uzy Smilansky:
The spectrum of the lengths of periodic orbits in billiards

Abstract: The spectrum of lengths of periodic orbits of the billiard bounce map will be defined and discussed. It will be shown that the length spectrum for hyperbolic billiard maps display universal correlations which can be expressed in terms of functions computed in random matrix theory. These correlations will be shown to vanish for integrable billiard maps.

Tid och plats: Onsdagen den 23 oktober kl. 13.15 – 14.15 i seminarierum 3721, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7.

MITTAG-LEFFLER SEMINAR

Gunter Stolz:
Fractional moment methods for the Anderson model

Abstract: The fractional moment (or Aizenman-Molchanov) method was developed in the early 1990's as an alternative to multiscale analysis in localization proofs for the Anderson model. While initially only applicable to lattice models, it gives stronger results such as exponential dynamical localization. We will discuss a recent extension of this method to continuum Anderson-type models.

This is joint work with M. Aizenman, A. Elgart, S. Naboko, and J. Schenker.

Tid och plats: Torsdagen den 24 oktober kl. 15.30 – 16.30 vid Institut Mittag-Leffler, Auravägen 17, Djursholm.

SEMINARIUM I DISKRET MATEMATIK

Sergey V. Avgustinovich:
On ranks and kernels problem of perfect codes
(Joint work with O. Heden and F. I. Solov'eva)

Abstract: In 1998 Etzion and Vardy proposed to clarify which pairs of numbers (r, k) are attainable as the rank r and kernel dimension k of some perfect code of length n. Two switching constructions are used to find an asymptotic decision of the problem.

Tid och plats: Onsdagen den 30 oktober kl. 10.15 – 12.00 i seminarierum 3733, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7.

ALGEBRAIC GEOMETRY SEMINAR

Jon Eivind Vatne:
Multiple structures in projective geometry

Abstract: For a given smooth projective variety X in P^n, the various non-reduced schemes with support on X (i.e. multiple structures on X) contain a lot of information about X and its embedding in projective space. By analysing this information, especially relations between Cohen-Macaulay multiple structures and locally free sheaves on X, a reformulation of Hartshorne's conjecture on complete intersections in codimension two is given. Other questions of splittings of bundles, projections of varieties and complete intersections also have natural formulations in this language.

Tid och plats: Torsdagen den 24 oktober kl. 11.15 – 12.30 i seminarierum 3733, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7.

JUBILEUMSSEMINARIESERIE PÅ NADA HÖSTEN 2002: ÅTERBLICKAR OCH FRAMTIDSBLICKAR

Magnus Persson:
Några aspekter på "Grid Computing"

Sammanfattning: Seminariet kommer att med mina personliga kommentarer redovisa några företags och organisationers syn (historik, nutid samt framtid) på 'Grid Computing'.

Grid Computing kan litet förenklat beskrivas som beräkningar användande ett antal autonoma kraftfulla 'klustrade' datorsystem sammankopplade med effektiva kommunikationssystem. Ett klustrat datorsystem består av datorer sammankopplade till en beräkningsenhet. Många förespår att Grid Computing kommer att bli mycket betydelsefullt för att kunna lösa stora beräkningsproblem i framtiden.

Tid och plats: Måndagen den 28 oktober kl. 15.15 – 16.00 i sal E2, KTH, Lindstedtsvägen 3, b.v.

SEMINARIUM I MATEMATISK STATISTIK

Jonathan Wendin

presenterar sitt examensarbete:

Estimation of the Spectral Measure and Tail Dependence Coefficient for Regularly Varying Random Vectors

Abstract: Multivariate regular variation is introduced as a tool for modelling heavy-tailed multivariate phenomena. Regularly varying random vectors are characterized in terms of a tail index and a spectral measure, where the latter can be interpreted as a measure of dependence for extreme events. Estimators of the spectral measure as well as of exceedance probabilities for improbable events are proposed. A final application concerns estimation of the tail dependence coefficient — a measure of asymptotical dependence that is of immediate interest to risk management.

Tid och plats: Måndagen den 28 oktober kl. 15.15 – 16.00 i seminarierum 3733, Institutionen för matematik, KTH, Lindstedtsvägen 25, plan 7.

MONEY, JOBS

Columnist: Hans Rullgård, Department of Mathematics, SU. E-mail: hansr@matematik.su.se.

Info = information. This will be given and repeated until obsolete. Rely on other sources as well.
BBKTH = Bulletin Board at the Department of Mathematics, KTH.
BBSU = Bulletin Board at the Department of Mathematics, SU.
Unless stated otherwise, a given date is the last date (e.g. for applications), and the year is 2002. A number without an explanation is a telephone number.

Standard information channels

1. A channel to information from Vetenskapsrådet: http://www.vr.se/naturteknik/index.asp.
2. A channel to information from the European Mathematical Society: http://www.emis.de.
3. A channel to information from the American Mathematical Society: http://www.ams.org.
4. KTH site for information on funds: http://www.kth.se/aktuellt/stipendier.
5. Stockholm University site for information on funds: http://www.su.se/forskning/stipendier/databas.php3.
6. Umeå site for information on funds: http://www.umu.se/umu/aktuellt/stipendier_fond_anslag.html.
7. Job announcement site: http://www.maths.lth.se/nordic/Euro-Math-Job.html. This is run by the European Mathematical Society.
8. Stiftelsen för internationalisering av högre utbildning och forskning (STINT) site for information on funds: http://www.stint.se.
9. Nordisk Forskerutdanningsakademi (NorFA) site for information on funds: http://www.norfa.no.
10. Svenska institutet (SI) site for information on funds: http://www.si.se.

New information

Jobs, to apply for

11. Matematiska institutionen vid Lunds universitet söker en universitetslektor i matematisk statistik, 30 oktober. Info: Ulla Holst, 046-222 85 49, e-post Ulla.Holst@matstat.lu.se, Tobias Rydén, 046-222 47 78, e-post Tobias.Ryden@matstat.lu.se. Web-info: http://www.lth.se/lthjobb/visajobb.asp?choice=detail&id=119&befattning=Lärare.

Old information

Money, to apply for

12. Riksbankens jubileumsfond utlyser två resestipendier om 100 000 kr ur Nils-Eric Svenssons Fond. Stipendium kan sökas av disputerad forskare, ej över 40 år, knuten till forskningsenhet vid universitet, för kortare tids vistelse i framstående europeisk forskarmiljö, 9 januari 2003. Info: 08-506 264 01, 08-506 264 30 (fax), margareta.buler@rj.se.
13. Stiftelsen G. S. Magnussons fond utlyser stipendier och forskningsanslag för doktorander och disputerade forskare, 31 mars 2003. Ansökan skall ske på särskild blankett. Web-info: http://www.kva.se/KVA_Root/swe/awards/scholarships/detail_scholarships.asp?grantsId=8.
14. Utbildningsvetenskapliga kommittén inom Vetenskapsrådet utlyser konferens- och resebidrag för i första hand unga och/eller nydisputerade forskare inom det utbildningsvetenskapliga forskningsområdet. Ansökningar kan skickas in fortlöpande under hela året. Web-info: http://www.vr.se/sokbidrag/index.asp?id=190&dok_id=1404.
15. Anslag ställs, från Knut och Alice Wallenbergs Stiftelse, till rektors för KTH förfogande för att ”i första hand användas till bidrag för sådana resor, som bäst befordrar ett personligt vetenskapligt utbyte till gagn för svensk forskning. Bidrag skall främst beviljas till yngre forskare.” Ansökan om resebidrag skall ställas till rektors kansli. Bidrag kan sökas när som helst under året. Info: se punkt 4 ovan.
16. Wenner-Gren Stiftelserna utlyser gästföreläsaranslag, avsedda att möjliggöra för svenska forskare eller institutioner att inbjuda utländska gästföreläsare. Anslag sökes av den inbjudande forskaren eller institutionen. Ansökningar kan inlämnas när som helst under året. Web-info: http://www.wenner-grenstift.a.se.

Jobs, to apply for

17. Matematiska institutionen vid Lunds universitet söker en doktorand i matematik, 30 oktober. Info: Per-Anders Ivert, 046-222 86 08, e-post Per-Anders.Ivert@math.lu.se.

(Continued on the next page.)

18. Institutionen för matematik vid KTH söker doktorander i optimeringslära och systemteori, 8 november. Info: Anders Lindquist, 08-790 73 11, e-post alq@math.kth.se, Anders Forsgren, 08-790 71 27, e-post AndersF @math.kth.se. Web-info: http://www.kth.se/aktuellt/tjanster/Anst/Dokt_Optsys.html.
19. Matematiska institutionen vid Linköpings universitet söker en doktorand i matematisk statistik, 27 oktober. Info: Timo Koski, 013-28 14 46, e-post tikos@mai.liu.se, Inga-Britt Hofstam, 013-28 14 01, e-post inhof @mai.liu.se. Web-info: http://www.liu.se/jobbdb/show.html?731.
20. Institutionen för teknik, fysik och matematik vid Mitthögskolan söker en universitetslektor i matematik, inriktning diskret matematik, 31 oktober. Info: Urban Cegrell, 070-228 59 35, e-post urban.cegrell@math.umu.se, Frank Wikström, 060-14 87 44, e-post frank.wikstrom@mh.se, Olof Björkqvist, 0611-861 11, e-post olof.bjorkqvist@mh.se. Web-info: http://www.mh.se/jobb/TFM020918lektormatematik.stm.