Abstracts

Aichinger Erhard <erhard@algebra.uni-linz.ac.at>

On the number of polynomially inequivalent finite Mal'cev algebras with congruence lattice of heigth two

Su. 04.02.2007, 10:15, HS 1

Section: Universal Algebra and Lattice Theory

We try to approach the following question: Is there a finite set A such that there are uncountably many clones on A that contain a Mal'cev operation and all constant operations? (R. McKenzie, oral communication). An equivalent formulation of this question is the following: Are there uncountably many polynomially inequivalent finite algebras with a Mal'cev term? A. Bulatov and P. Idziak have classified the countably infinite set of clones that contain the polynomial functions of $(\mathbb{Z}_{p^2}; +)$ (p a prime). We give an argument that shows that every expanded group with congruence lattice of height two has at most countably many polynomially inequivalent expansions.

Barto Libor <jetel@matfyz.cz>

Baskets of essentially algebraic categories

Fr. 02.02.2007, 11:30, HS 2

Section: Universal algebra and lattice theory

J. Sichler and V. Trnková introduced a concept of functor slices. Their theory yields a quasiordering on the collection of concrete categories and this determines an equivalence on this collection. Many familiar concrete categories belong to one of the following two equivalence classes (called baskets) - algebraic and relational. In the talk we focus on essentially algebraic categories which determine baskets lying strictly between algebraic and relational baskets. We also mention connection with generalized zig-zag conditions.

Boyd Colin <c.boyd@qut.edu.au>

Applications of elliptic curve pairings in cryptography

Sa. 03.02.2007, 09:15, HS 1

Section: Plenary Talks

Bilinear pairings on elliptic curves have seen an explosion of interest in the cryptographic research community over the past five years. This talk will explore why cryptographers are so interested in these constructions by examing some of the typical applications that they are used for. Most prominent of these is identity-based cryptography, but some less known variants and other application areas will also be examined. The talk also aims to explain what are the properties of such pairings that are required in terms of both efficient implementation and security.

Boykett Tim <tim@timesup.org>
Non-associative difference families
Sa. 03.02.2007, 16:15, HS 1
Section: Applications of Algebra

The generation of combinatorial designs is a common approach to applying novel algebraic structures. One common technique is to use an algebraic structure including a group to generate a difference family, from which designs can be derived. The Ferrero Pair construction known from (planar) nearring theory is one such example. Recent work from Silvia Pianta has investigated nonassociative generalisations of (planar) nearrings and inspired this work.
We investigate the possibility of using nonassociative group-like structures, quasigroups, in order to obtain a difference family type construction. We derive a description of these structures and continue to show that these different structures give exactly the same results as the group based difference families.
This result will be of interest to those investigating designs derived from algebraic structures. Future work may be able to use these results to describe the nonassociative planar nearrings explicitly.

Chajda Ivan <chajda@inf.upol.cz>
Lattice representation of MV-algebras and basic algebras
Fr. 02.02.2007, 11:00, HS 3
Section: Universal Algebra and Lattice Theory

We introduce the so-called lattices with sectional antitone involutions which are bounded lattices where for each section is an antitone involution on it. We prove that every MV-algebra can be converted in such a lattice which is, moreover, distributive and satisfies the exchange identity. Also conversely, every such a lattice can be converted into an MV-algebra. The concept of MV-algebra is weakned to obtain the so-called Basic algebra. The mutual correspondence between Basic algebras and lattices with sectional antitone involutions is established. Among other things, this enables us to characterize by a simple identity when a Basic algebra becomes an MV-algebra.

Cīrulis Jānis <jc@lanet.lv >
Monadic multiplicative semilattices
Sa. 03.02.2007, 16:45, HS 2
Section: Universal Algebra and Lattice Theory

Multiplicative semilattices with zero are known also as additively idempotent semirings. A monadic multiplicative semilattice is such an algebra equipped with an existential quantifier in the sense of Halmos, i.e., an additive and zero-preserving closure operator ∇ that is quasi-multiplicative: $\nabla(a \cdot \nabla b) = \nabla a \cdot \nabla b$. We present a representation theorem for bounded monadic multiplicative semilattices.

Denecke Klaus <kdenecke@rz.uni-potsdam.de>
Binary relations on monoids of hypersubstitutions
Sa. 03.02.2007, 10:45, HS 1 and Sa. 03.02.2007, 14:15, HS 1
Section: Universal Algebra and Lattice Theory

In this paper we consider different relations on the set P(V) of all proper hypersubstitutions with respect to a given variety V and their properties. Using these relations we introduce the cardinalities of the corresponding quotient sets as numerical invariant degrees and determine the properties of solid varieties having given degrees. Finally, for all varieties of bands we determine their isomorphism degrees of proper hypersubstitutions. Key Words: solid variety, degree of proper hypersubstitutions, isomorphism degree of proper hypersubstitutions. AMS Subject Classification: 08B15, 20M07.

Emanovský Petr <emanovsky@inf.upol.cz>
Pseudo *-autonomous lattices
Fr. 02.02.2007, 16:00, HS 3
Section: Universal Algebra and Lattice Theory

Pseudo *-autonomous lattices are non-commutative generalizations of *-autonomous lattices. It is proved that the class of pseudo -*autonomous lattices is a variety of algebras which is term equivalent to the class of dualizing residuated lattices. It is shown that the kernels of congruences of pseudo *-autonomous lattices can be described as their normal ideals.

Goldstern Martin <martin.goldstern@tuwien.ac.at>
Clones on infinite sets, again
Fr. 02.02.2007, 09:30, HS 1
Section: Plenary Talks

A clone on a set X is a set of finitary operations on X which contains all projections and is closed under compositions. The set of all clones on X forms a complete algebraic lattice, whose structure is still largely unknown, in particular for infinite base sets X.

I will present a few old and new results about clones that lie near the top of this lattice (such as coatoms), and mention several open problems.

Graczyńska Ewa Wanda <egracz@po.opole.pl>
M-solid quasivarieties
Sa. 03.02.2007, 11:45, HS 1 and Sa. 03.02.2007, 14:15, HS 1
Section: Universal Algebra and Lattice Theory

M-hyperquasi-identities in the sense of the author and D. Schweigert [3] are con-

sidered. We concentrate on hyperequational problem 19 posed by K. Denecke and S. L. Wismath in [2]. Possible solutions and generalizations of that problem will be presented. In particular we concentrate on an interestins example of a unary algebra of type (1,1) invented in [1] and present a solution on M-hyperequational problem in the variety $\mathcal{Q}$ generated by the algebra $\mathbf{Q}$ presented in [1].

References

[1] Davey, B. A., Pithethly, J. *Unary algebras and beyond, Springer 2005.*

[2] Denecke, K., Wismath, S. L., *Hyperidentities and clones,* Algebra, Logic and Applications, Vol. 14, 2000.

[3] Graczynska, E., Schweigert, D. *M-hyperquasivarieties,* Demonstratio Mathematica, Vol. XXXIX, No. 1, 2006, 33-42.

Halaš Radomír <halas@inf.upol.cz>

Finite commutative basic algebras

Fr. 02.02.2007, 11:30, HS 3

Section: Universal Algebra and Lattice Theory

Basic algebras, being bounded lattices having antitone involutions on their principal filters, play an important role in algebraic theory of non-classical logics. The aim of our talk is to show that finite commutative basic algebras are in fact MV-algebras. This result also gives a nice simple description of finite Multiple Valued Quantum algebras for which their blocks (i.e. maximal subsets of pairwise compatible elements) form an MV-algebra. (joint work with M. Botur)

Haviar Miroslav <haviar@pdf.umb.sk>

Canonical extensions of Stone and double Stone algebras: the natural way (Joint work with H. A. Priestley (Oxford, UK))

Sa. 03.02.2007, 16:15, HS 2

Section: Universal Algebra and Lattice Theory

A construction of canonical extensions of Stone algebras is presented that uses the natural duality based on the three-element generating algebra rather than the Priestley duality based on the two-element generating algebra that is traditionally used to build the canonical extension. The new approach has the advantage that the canonical extension so constructed inherits its algebra structure pointwise from a power of the generator, so that the extension of the fundamental operations and closure of the variety under the formation of canonical extensions occur in a transparent way. An analogous construction is outlined for two further varieties, indicating that the method has the potential to be applied in a similar manner to other classes of bounded distributive lattice expansions.

Jasem Milan <milan.jasem@stuba.sk>
On elements of lattice ordered monoids
Sa. 03.02.2007, 16:45, HS 1
Section: Universal Algebra and Lattice Theory

In the contribution some properties of elements of lattice ordered monoids are studied. It is proved that in any distributive lattice ordered monoid A, for each positive integer n and each element a of A the relations $n(a+) = (na)+$, $n(a-) = (na)-$ are valid. Further, it is shown that the set of all idempotent elements of a commutative lattice ordered monoid B is an I-submonoid of B and that an analogous assertion does not hold for non-commutative monoids. It is also proved that each idempotent positively ordered lattice ordered monoid is commutative and distributive.

Jedlička Přemysl <jedlickap@tf.czu.cz>
Loop identities obtained by nuclear identification
(Joint work with Aleš Drápal)
Sa. 03.02.2007, 17:15, HS 1
Section: Universal Algebra and Lattice Theory

We describe all the varieties of loops Q that can be defined by autotopisms α_x, $x \in Q$, where α_x is a composition of two triples, each of which becomes an autotopism when the element x belongs to one of the nuclei. In this way we obtain a unifying approach to Bol, Moufang, extra, Buchsteiner and conjugacy closed loops. We reprove some classical facts in a new way and show how Buchsteiner loops fit into the traditional context.

Jost Christine <christine.jost@mailbox.tu-dresden.de>
Which commutative monoids have only finitely generated submonoids?
Fr. 02.02.2007, 17:00, HS 1
Section: Classical Algebra

It is well-known and easy to prove that every submonoid of the commutative monoid $(N, +)$ can be generated by some finite subset. But this is not true for commutative monoids in general. In this talk, we give a necessary and sufficient condition on commutative monoids for having only finitely generated submonoids. Having the monoid presented as quotient monoid of the free commutative monoid, the condition is given on the defining congruence. The problem is solved in a constructive way, i.e. an algorithm is given that checks whether the condition is satisfied.

Kautschitsch Hermann <hermann.kautschitsch@uni-klu.ac.at>
Radicals in the nearring of formal power series
Sa. 03.02.2007, 17:15, HS 2
Section: Classical Algebra

We consider the near-ring of formal power series over a commutative ring with 1 with respect to addition and composition. Since all nilpotent power series can be characterized, all nil-radicals are determined and also all prime radicals, so with older results all radicals are known.

Kolařík Miroslav <kolarik@inf.upol.cz>
Directoids with sectionally antitone involutions and skew MV-algebras
Fr. 02.02.2007, 17:00, HS 3
Section: Universal Algebra and Lattice Theory

It is well-known that every MV-algebra is a distributive lattice with respect to the induced order. Replacing this lattice by the so-called directoid (introduced by J. Ježek and R. Quackenbush) we obtain a weaker structure, the so-called skew MV-algebra. The talk is devoted to the axiomatization of skew MV-algebras, their properties and a description of the induced implication algebras.

Koppitz Jörg <koppitz@rz.uni-potsdam.de>
Monoids of hypersubstitutions of type (2,2,1,0)
Sa. 03.02.2007, 11:15, HS 1
Section: Universal Algebra and Lattice Theory

There is no non-trivial solid variety of rings. We will determine all monoids M of hypersubstitutions of type (2,2,1,0) such that there is at least one non-trivial M-solid variety (of a class) of rings. In particular, we characterize the maximal ones with this property. The set of all M-solid varieties of rings forms a complete sublattice of the lattice of all varieties (of a class) of rings. We can determine the greates one in each case. Moreover, we give an interesting result concerning M-solid varieties of lattices. For each monoid M of hypersubstitutions of type (2,2) we can determine the lattice of all M-solid varieties of lattices. (Compare also results concerning M-solid varieties of groups.)

Kühr Jan <kuhr@inf.upol.cz>
Representable pseudo-BCK-algebras
Fr. 02.02.2007, 12:00, HS 3
Section: Universal Algebra and Lattice Theory

Pseudo-BCK-algebras (also called biresiduation algebras) are the implication subreducts of integral residuated lattices. We characterize representable pseudo-

BCK-algebras (i.e., subdirect products of linear pseudo-BCK-algebras) by a single identity without using the join operation; the identity at the same time gives an axiomatization of representable integral residuted lattices.

Länger Helmut <h.laenger@tuwien.ac.at>
A characterization of horizontal sums of Boolean rings
Sa. 03.02.2007, 15:45, HS 2
Section: Universal Algebra and Lattice Theory

Boolean quasirings are generalizations of Boolean rings. Boolean quasirings correspond to ortholattices in a completely analogous way as Boolean rings correspond to Boolean algebras. Horizontal sums of Boolean quasirings are defined and those Boolean quasirings are characterized that are horizontal sums of Boolean rings.

Lehtonen Erkko <erkko.lehtonen@tut.fi>
On homomorphisms of labeled posets
Fr. 02.02.2007, 12:00, HS 1
Section: Universal Algebra and Lattice Theory

For a positive integer k, a k-poset is an object (P, c), where P is a partially ordered set and c is a function that assigns to each element of P a label from the set $\{0, 1, \ldots, k-1\}$.
A homomorphism is a mapping between k-posets that preserves both the order and labels. We consider the ordering of finite k-posets by the existence of homomorphism between them.
In this talk, we provide an overview of the topic, and we present some of our results.

Machida Hajime <machida@math.hit-u.ac.jp>
Some remarks on minimal clones
(Joint work with M. Pinsker)
Fr. 02.02.2007, 11:00, HS 1
Section: Universal Algebra and Lattice Theory

An attempt is presented to find new minimal clones by considering minimal functions as polynomials over $GF(q)$ when the base set has q elements where q is a power of a prime. Some examples of polynomials generating minimal clones will be given.

Mahmoudi Mojgan <mojganmahmoudi@yahoo.com, m-mahmoudi@sbu.ac.ir>
Some categorical properties of S-posets
Fr. 02.02.2007, 12:00, HS 2
Section: Universal Algebra and Lattice Theory

In this talk, we consider posets equipped with a compatible right action of a pomonoid S, called S-posets. Some category-theoretic properties of the category Pos-S of all S-posets with monotone action-preserving maps between them is discussed. Specifically, we characterize several kinds of epimorphisms and monomorphisms. Also, then, we present some adjoint relations of Pos-S with Pos, Set, and Set-S. In particular, we discuss free and cofree objects.

Mućka Anna <aniam@b4.pl>
The lattice of quasivarieties of fibered automata
Su. 04.02.2007, 10:15, HS 2
Section: Universal Algebra and Lattice Theory

We show that a Q-universal of subquasivarieties of the quasivariety of monounary algebras (S,d) defined by the quasiidentity $sd = td > s = t$ embeds into the lattice of quasivarieties of fibered automata. Then we present a variety of unary algebras categorically equivalent to the category of pure algebras of the variety of permutational fibered automata.

Pinsker Michael <marula@gmx.at>
Local clones containing the permutations
Fr. 02.02.2007, 11:30, HS 1
Section: Universal Algebra and Lattice Theory

Let N be the natural numbers. A clone on N is a set of finitary operations on N which is closed under composition and which contains all projections. A clone C is called local iff in addition it contains all operations which can be approximated by operations from C on all finite subsets of N. We present recent results towards a classification of those local clones which contain all permutations of N. Such a classification turns out to be the same as classifying the reducts of the relational structure (N,=) up to primitive positive interdefinability.

Pinus Alexander <algebra@nstu.ru>
On definability of algebras by their transformation semigroups
Su. 04.02.2007, 10:45, HS 1
Section: Universal Algebra and Lattice Theory

We consider the question of definability of the universal algebras (finite and locally finite) by some semigroups of their transformations: semigroups of inner

isomorphisms, inner homomorphisms, semigroups of endomorphisms, groups of automorphisms, lattices of subalgebras and others.

Pöschel Reinhard <Reinhard.Poeschel@tu-dresden.de>
Endomorphisms of quasiorders
(Talk together with S. Radeleczki)
Fr. 02.02.2007, 16:00, HS 1 and Sa. 03.02.2007, 14:15, HS 1
Section: Universal Algebra and Lattice Theory

We describe binary relations σ (on a set A) preserved by the endomorphisms of a quasiorder q (on A), i.e. with the property $End\ q \subseteq End\ \sigma$. In particular we determine the quasiorder lattice of the algebra $(A, Pol\ q)$ and conclude conditions for tolerance and congruence simplicity. We also characterize those quasiorders q whose endomorphism monoid $End\ q$ is a dual atom in the poset $(\{End\ \rho \mid \rho \subseteq A \times A\}, \subseteq)$.

Radeleczki Sándor <matradi@gold.uni-miskolc.hu>
Related structures and involution lattices
(Joint work with R. Pöschel)
Fr. 02.02.2007, 16:30, HS 1
Section: Universal Algebra and Lattice Theory

We investigate several relations between the related structures of an algebra, like its congruence lattice and quasiorder lattice, or its tolerance lattice and its lattice of compatible reflexive relations. It is well-known, that all these structures can be considered as involution lattices. Some applications of these results to the case of majority algebras and linearly ordered algebras are also emphasised.

Ricci Gabriele <gabriele.ricci@unipr.it>
Another characterization of vector spaces without fields
Fr. 02.02.2007, 17:30, HS 2
Section: Classical Algebra

A based universal algebra consisting of the sum of an Abelian group and of unary operations is a vector space iff the unary operations are its dilatations and the non-null ones send the base set into a base set. These two conditions provide the algebra with the required underlying field and equations.
This characterization comes from a former one by simplifying one of the former conditions. It is an expressive characterization for algebras derived from Abelian groups, whereas the former was for universal algebras.

Salim Mohamed A.M. <msalim@uaeu.ac.ae>
Two classes of rings with unique compact topology
(Joined work with Mihail Ursul <ursul@uoradea.ro>)
Fr. 02.02.2007, 16:30, HS 2
Section: Classical Algebra

The study of rings with unique compact topology was initiated by *S. Warner (1960)*. We construct an indecomposable ring with unique compact topology of arbitrary weight; and we study an example of an infinite profinite ring with finite centre whose all proper continuous homomorphic images are finite.

Šalounová Dana <dana.salounova@vsb.cz>
States on perfect bounded $R\ell$-monoids
(Joint work with Jiří Rachůnek)
Fr. 02.02.2007, 17:30, HS 3
Section: Applications of Algebra

Bounded $R\ell$-monoids generalize GMV-algebras, pseudo $B\ell$-algebras and Heyting algebras. States on such monoids are analogues of probability measures. The existence of states in connected with the existence of maximal filters which are normal. We prove that every good and normal perfect $R\ell$-monoid, such that the GMV-algebra of its regular elements is symmetric, admits a (unique) state.

Schaffer Martin <martin.schaffer@uni-klu.ac.at>
Secure collision-free key generation for discrete-log based threshold cryptosystems
Sa. 03.02.2007, 10:45, HS 2
Section: Applications of Algebra

Modern public-key cryptosystems use probabilistic algorithms including key generation, encryption and signature generation. Such algorithms use (pseudo)-random number generators which implies that system-wide collisions among the employed random values can occur. However, it is well known that - depending on the probabilistic scheme - such collisions can decrease the security of the system. Adapting probabilistic single-server public-key schemes to avoid collisions is quite simple, but this is not the case in the multiple-server setting (for so-called threshold cryptosystems).

We present a method for distributed generation of shared secrets being unique within a certain time-interval. Although for key generation randomness (including the need for independency) and uniqueness seem to contradict each other, we prove the following for our proposal: Based on extensions to common algebraic structures and a novel variant of the Discrete Logarithm Problem, the security fully relies on a uniformly and independently part of these numbers, while

uniqueness is guaranteed by another disjoint part or in-all respectively (which depends on the particular solution). Our method is particularly designed to enable efficient solutions to the problem of generating, using and updating shared secret keys and randomizers for discrete-log based threshold cryptosystems, while additionally achieving uniqueness as an implicit by-product. Nevertheless, the techniques can also be used for the single-server setting.

Semenova Marina <udav17@yahoo.com>
Closure lattices of closure spaces
Fr. 02.02.2007, 14:30, HS 1
Section: Plenary Talk

Given a closure space, we are interested in elementary properties of the corresponding lattice of closed subsets (closure lattice, in other words). In particular, we are interested in the structure of the quasivariety generated by closure lattices of some certain closure spaces. In some particular cases that quasivariety turns out to be a variety.

Šešelja Branimir <seselja@im.ns.ac.yu>
Lattice valued order and covering
Sa. 03.02.2007, 11:45, HS 2
Section: Applications of Algebra

A generalization of ordering relation on a nonempty set is investigated. It is defined as a particular function from the square of a set to a complete lattice, or to a bounded poset. The corresponding generalized covering relation is defined. Its diagram is a classical Hasse diagram, whose edges are labeled by elements of a complete lattice (or a bounded poset). A connection between lattice valued and classical order and covering is established. Vice versa, we start with an abstract mapping from a square of a set to a complete lattice. We present conditions under which this function enable a construction of a lattice valued order, whose generalized covering is the starting function.

Shahbaz Leila <leilashahbaz@yahoo.com>
On dense injectivity of acts over a semigroup
Fr. 02.02.2007, 16:00, HS 2
Section: Classical Algebra

Dense monomorphisms and injectivity with respect to these monomorphisms were first introduced and studied by Giuli for acts over the monoid of natural numbers with minimum as its binary operation. In this paper, we generalize these notions to acts over a general semigroup, study some properties of dense injective acts, and give some results about the behaviour of dense injectivity.

Solovjovs Sergejs <sergejs@lu.lv>
A note on nuclei of quantale algebras
Fr. 02.02.2007, 11:00, HS 2
Section: Universal Algebra and Lattice Theory

We introduce the notion of quantale algebra nucleus and consider its role in representation of extremal quotient objects of a given quantale algebra as well as in factorization of quantale algebra homomorphisms. The set of all nuclei on a given quantale algebra is endowed with the structure of quantale semialgebra.

Srithus Ratana <srithus@rz.uni-potsdam.de>
Mal'cev terms and hypersubstitutions in abelian groups
Fr. 02.02.2007, 17:30, HS 1
Section: Universal Algebra and Lattice Theory

A ternary term t satisfying the identities $t(x_1, x_2, x_2) \approx t(x_2, x_2, x_1) \approx x_1$ in a given variety V is called a *Mal'cev term*. It is well-known that a variety has a Mal'cev term iff it is congruence permutable in the sense that for any two congruences θ_1, θ_2 of an algebra $\mathcal{A}$ from V the equation $\theta_1 \circ \theta_2 = \theta_2 \circ \theta_1$ is satisfied.
A mapping σ which maps operation symbols f_i of a given type τ to terms of the corresponding type is said to be a hypersubstitution. Hypersubstitutions can be extended to mappings which map terms to terms and preserve the arities. We want to know which hypersubstitutions map Mal'cev terms to Mal'cev terms. This problem will be completely solved for abelian groups.

Švrček Filip <svrcekf@inf.upol.cz>
Quantifiers on residuated lattices
(Joint work with Jiří Rachůnek)
Fr. 02.02.2007, 16:30, HS 3
Section: Universal Algebra and Lattice Theory

Monadic MV-algebras (MV-algebras with quantifiers) were introduced and studied as an algebraic counterpart for the infinite valued predicate calculus. There are some classes of algebras which contains MV-algebras as a subclass, among them residuated lattices. We try to introduce the notion of the quantifier on these, more general structures and describe the whole situation.

Tepavčević Andreja <etepavce@eunet.yu>
Fuzzy lattices and posets
Sa. 03.02.2007, 11:15, HS 2
Section: Applications of Algebra

Fuzzy algebraic structures are defined as mappings from underlying sets of algebras to a complete lattice (or to a residuated lattice in a special framework), that satisfy certain conditions. Cut sets are special substructures of the domain - structure, defined using the order in the codaimain-lattice. In this talk we will present results concerning fuzzy lattices, in particular fuzzy complete lattices and connections with fuzzy closure systems and fuzzy closure operators.

Second part will be devoted to fuzzy ordering relations and fuzzy ordered sets and their connections with fuzzy centralized systems and special fuzzy operators.

Tůma Jiří <Jiri.Tuma@karlin.mff.cuni.cz>
Semilattice measures
Su. 04.02.2007, 09:15, HS 1
Section: Plenary Talks

If P is a join semilattice with 0, then a P measure on a set A is a mapping $\delta : A \times A \to P$ satisfying the usual definition of a metric space.

This innocent-looking definition is in fact a concept dual to a complete meet-preserving mapping from the ideal lattice of P into the partition lattice on the set A, but technically easier to work with.

I will survey various uses of P-measures in algebraic representations of lattices.

Wille Rudolf <wille@mathematik.tu-darmstadt.de>
Capessimus - a game of conceiving concepts
Sa. 03.02.2007, 15:45, HS 1
Section: Lattice Theory or Applications

"Capessimus" is a training tool which has been created to support the understanding and the drawing of appropriate line diagrams of concept lattices. It is important that users of this training tool are served with enough criteria for deciding whether a drawn diagram is correct or not. The search for such criteria has led to the Basic Theorem on Labelled Line Diagrams of Finite Concept Lattices which will be presented and explained in the talk.

Zamojska-Dzienio Anna <azamojsk@elka.pw.edu.pl>

On lattices embeddable into lattices of order-convex sets. Case of pseudo-N-free posets.

(Joint work with Marina Semenova)

Su. 04.02.2007, 10:45, HS 2

Section: Universal Algebra and Lattice Theory

Let $S(Co(K))$ denote the class of lattices embeddable into convexity lattices of posets belonging to K. A syntactic description of the class $S(Co(K))$ is found for several classes of posets. We find such description in case of pseudo-N-free posets. The characterization implies that this class forms a finitely based variety.
