



НАУЧЕН СЕМИНАР
АЛГЕБРА & ГЕОМЕТРИЯ

7 юли 2015 г. (вторник)

от 11:00 ч. до 12:00 ч.

в 534. комп. зала на ФМИ

ТЕМА:

**LATTICES OF WEAK CONGRUENCE RELATIONS AND OPEN PROBLEMS.
OMEGA ALGEBRAS**

ЛЕКТОРИ:

ПРОФ. Д-Р АНДРЕЯ ТЕПАВЧЕВИЧ, ПРОФ. Д-Р БРАНИМИР ШЕШЕЛЯ
ПРИРОДОМАТЕМАТИЧЕСКИ ФАКУЛТЕТ, УНИВЕРСИТЕТА НА НОВИ САД, СЪРБИЯ

РЕЗЮМЕ:

A weak congruence relation on an (universal) algebra is a relation on the underlying set of the algebra which is symmetric, transitive and compatible with all the operations. The set of all weak congruences of an algebra is an algebraic lattice under the inclusion. Representation of an algebraic lattice by the weak congruence lattice of an algebra is still an open problem in universal algebra formulated 25 years ago. Its nontrivial version is to locate an element of a lattice representing the diagonal relation and then to find a corresponding algebra. There are solutions for some special cases, e.g., the diagonal being in the center of the lattice. Many sufficient conditions have also been obtained. The aim of the talk is to present the history of the topic and some recent results. We deal with algebras equipped with an omega valued equality, omega being a complete lattice, generalizing the notion of an omega set introduced by Fourman and Scott in seventies. Omega algebras satisfy an identity, if a particular lattice theoretic formula holds. We use the technique of cut-sets, and we prove the following. An omega algebra fulfills a set of identities if and only if the quotient algebras of cut structures over congruences (which are cuts of the omega equality) satisfy the same identities in the classical way. We present particular examples of omega groups and omega lattices.

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