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In Recognition of his Outstanding Scholarly Achievements,
the Faculty of Mathematics of the Munich University of Technology

appoints the

John-von-Neumann Visiting Professorship 2008

to

Professor Dr. Vladimir Popov

December 12, 2008

Herbert Spohn
Prof. Dr. Herbert Spohn
Dean of Mathematics

Gero Friesecke
Prof. Dr. Gero Friesecke
Chair of Selection Committee

Vorlesungsankündigung

John-von-Neumann-Gastprofessur

Prof. Dr. Vladimir Popov

Russian Academy of Sciences, Moskau

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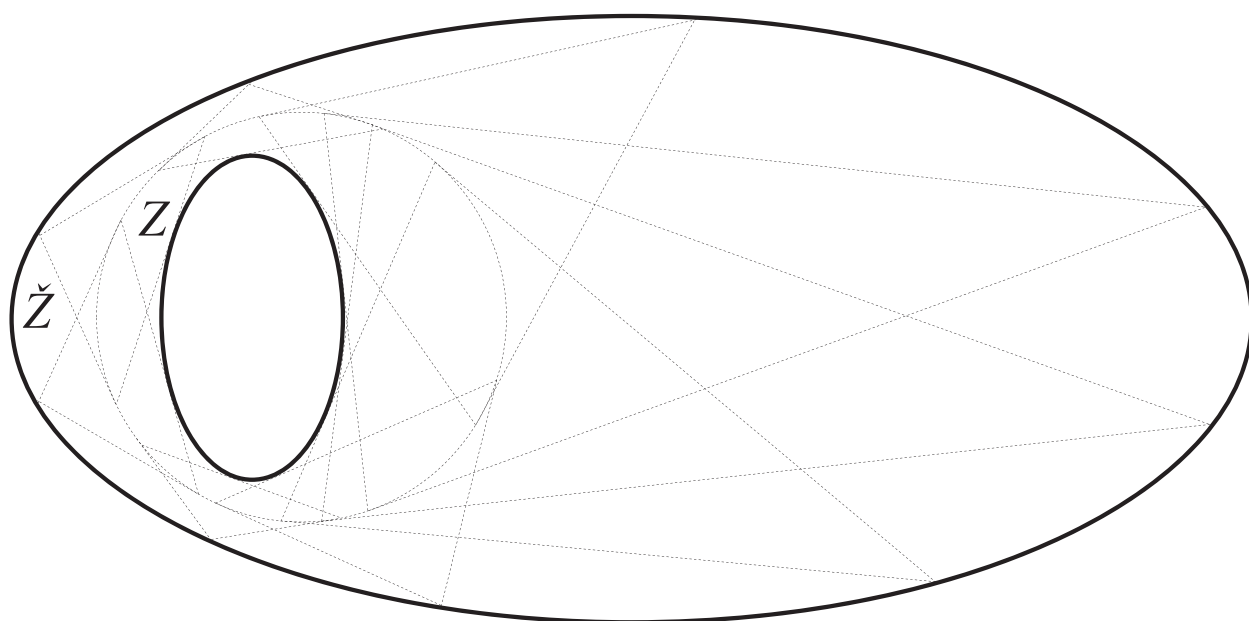**Zeit:**
Montag, 10:15 - 11:45 Uhr, MI 00.09.022
Donnerstag, 8:30 - 10:00 Uhr, MI 00.09.022
Übung: Freitag, 10:15 - 11:45 Uhr, MI 00.09.022

Beginn:
13.10.2008

Invariant Theory

Invariant Theory is an algebraic discipline that arose about 150 years ago from describing polynomial functions that do not change under certain types of linear transformations of variables.

This theory passed through several periods of growths and falls and nowadays is again vigorously flourishing because of the deep connections with a number of mathematical disciplines (Lie groups, algebraic groups, algebraic geometry, representation theory, commutative algebra, homological algebra, Galois theory, ring theory, combinatorics, coding theory) and famous mathematical problems (13th, 14th, and 15th Hilbert's problems). In fact, Invariant Theory gave birth to some of them.

The course in intended to give an introduction to Invariant Theory. It will be supported by numerous examples and assumes only a general algebraic backgroud of the audience (linear algebra and standard basics in groups, rings, and fields). It is planned to illustrate the main theory with applications to coding theory and a discussion of algorithmic and implementation aspects.