СЕМИНАР НА МЦМН

СЕМИНАР

„АЛГЕБРА И ЛОГИКА"

Драги колеги,

На 29 април 2025 г. (вторник) от 14:00 часа в зала 403 на ИМИ-БАН ще се проведе съвместно заседание на семинара на Международния център по математически науки и на семинара по Алгебра и логика.
Доклад на тема

Group action on homogeneous spaces and applications in number theory

ще изнесе

Georges Tomanov (Claude Bernard University Lyon 1, France).

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Abstract:

Many longstanding conjectures and problems in number theory can be reformulated in terms of group actions on homogeneous spaces. This reformulation allows them to be tackled using, alongside deep methods from algebra and algebraic geometry, powerful tools from ergodic theory and dynamical systems. An example of the effectiveness of this approach is Margulis's groundbreaking proof of the Oppenheim conjecture (formulated in 1929) concerning the values of quadratic forms at integer points.

In this talk, aimed at a general audience, we will describe recent results on the characterization of norm forms—a classical object in algebraic number theory—in terms of their values at integer points. These results answer natural questions and are related to still-open conjectures of Littlewood (from 1930) and of Cassels and Swinnerton-Dyer (from 1955). The proofs rely on studying the actions of maximal tori of algebraic groups on homogeneous spaces of arithmetic origin.