The structure of the normalizers of maximal tori in groups of Lie type

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Abstract. Maximal tori play an important role both in linear algebraic groups and in finite groups of Lie type. In particular, they appear in the representation theory of groups of Lie type and occupy a central place in Kazhdan–Lusztig theory. They also arise in the study of various problems related to subgroup structure, since every semisimple element of a group of Lie type is always contained in some maximal torus.

It is well known that the normalizer of a maximal torus is an extension of the maximal torus by the Weyl group. The problem of splitting the normalizer of a maximal torus was first formulated by Jacques Tits in 1966. In this talk, we will discuss the solution to this problem, as well as related problems concerning the structure of the normalizer of a maximal torus.

About the speaker. Alexey Galt is a senior researcher at Sobolev Institute of Mathematics and an Associate Professor at Novosibirsk State University, Novosibirsk, Russia. His research interests focus on group theory and related areas, including axial algebras and Rota–Baxter operators on groups. In group theory, he is interested in linear algebraic groups and finite groups of Lie type.

Previously, he was a postdoctoral researcher at the University of Campinas in Brazil (2014–2015) and at the University of Science and Technology of China in Hefei (2012–2013).

References

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