Algebra Seminar

Dr. Mikhail Kotchetov
MUN

Wednesday, February 14, 2018
HH-3017, 1:00p.m.

Lie algebras of type D4 and triality (conclusion)

Abstract:

Last time we discussed the "trialitarian" models for the spin group of the space of octonions and the tangent Lie algebra of this group (which has type D4): namely, the related triples of isometries and the related triples of skew-symmetric operators on the space of octonions. The main feature of these models is that they reveal the outer action of the permutation group S3 on these objects. We will continue to explore the implications of this, including related triples of automorphisms of the algebra of matrices of order 8 (equipped with the involution determined by the octonionic norm), related triples of gradings on the said algebra, and related triples of central simple algebras of degree 8 (equipped with orthogonal involutions)