Fields Institute Workshop Jordan Algebras and Related Fields
(Sept. 21-24, 2005 at the University of Ottawa — Abstracts)

Ottmar Loos
Universität Innsbruck

Generically unramified Jordan algebras over commutative rings

Let J be a generically algebraic Jordan algebra of degree d over a commutative ring k. An element of J is called *semisimple* if the discriminant of its generic minimum polynomial is invertible, and J is called *generically unramified* if the discriminant of its generic minimum polynomial vanishes nowhere on the spectrum of k. An equivalent condition is that J contain, possibly after a faithfully flat base extension, a semisimple element of degree d. We discuss the proto-Peirce decomposition with respect to a semisimple element, the relation between separability and unramifiedness of J, and show that the automorphism group scheme of a separable and generically unramified Jordan algebra is flat.