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Abstracts of Short Communications and Posters

Section:

2. Algebra

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Higher anisotropic kernels of quadratic forms

Let q be an anisotropic regular quadratic form over a field k of any characteristic. The higher anisotropic kernels of q are natural algebraic invariants of q, occuring over the fields of a generic splitting tower of q.
Theorem: The higher anisotropic kernel forms of q are definable over some purely transcendental extension of the ground field k, more precisely: There is a tower of purely transcendental field extensions $k'_0 = k \subset \ldots \subset k'_h$ and a generic splitting tower $k_0 = k \subset \ldots \subset k_h$ of q, such that $k'_i \subset k_i$ is a multiquadratic extension, and such that the anisotropic kernel of $q \otimes_k k_i$ is definable over k'_i for $i = 0, \ldots, h$. This is some joint work with Manfred Knebusch.