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Abstracts of Short Communications and Posters

Section:

3. Number Theory and Arithmetic Algebraic Geometry

1991 MS Classification: 12,14,18
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Stably rational algebraic tori
Let X be an algebraic variety over a field k. We call X stably rational if $X \times_k \mathbf{A}^m$ is rational for some m. In the category of algebraic tori we have the criterion of stable rationality which enables us to construct any stably rational tori [1]. However, among them one has't yet found a nonrational torus.
Conjecture. Any stably rational torus over a field k is rational over k.
We suggest a new approach to this conjecture. In particular, we prove the rationality of any stably rational torus with a cyclic splitting field.
Reference: [1] Voskresenskii V. E. The geometry of linear algebraic groups, Proc. Steklov Inst. Math., 132, 1973, 173-183.