Dissertation Defense

Hasse principle for Hermitian spaces

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Abstract: This dissertation provides three results:

(1) A Hasse principle for rational points of projective homogeneous spaces under unitary or special unitary groups associated to hermitian or skew hermitian spaces over function fields of p-adic curves;

(2) A Springer-type theorem for isotropy of hermitian spaces over odd degree field extensions of function fields of p-adic curves;

(3) Exact values of Hermitian u-invariants of quaternion or biquaternion algebras over function fields of p-adic curves.

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