

# Oberseminar

## Zahlentheorie und Arithmetische Geometrie

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### "Manin's conjecture for certain Châtelet surfaces"

For a projective variety  $S$  which contains infinitely many rational points, a natural question is to count the number of such points of height less than some bound  $B$ . The Manin-Peyre's conjectures predict, for Fano varieties, the distribution of rational points of bounded height in terms of geometric invariants of the variety. Following the line of attack of La Bretèche, Browning and Peyre, we will prove in this talk Manin's conjecture in the case of a Châtelet surface given as minimal proper smooth model of an affine variety given by

$$Y^2 + Z^2 = F(X, 1)$$

where  $F \in \mathbb{Z}[x_1, x_2]$  is a degree 4 polynomial without repeated roots and whose factorisation into irreducibles over  $\mathbb{Q}$  is of the form  $F = L_1 L_2 Q$  with  $L_1$  and  $L_2$  two non proportional linear forms and  $Q$  a quadratic form which is irreducible over  $\mathbb{Q}[i]$ .

**Mittwoch, 06.05.2015**

**ab 16:00 Uhr, Raum a410**

**Hauptgebäude der Leibniz Universität Hannover**

**Alle Interessierten sind herzlich eingeladen.**

**Institut für Algebra, Zahlentheorie  
und Diskrete Mathematik**