



Mathematics > Number Theory

# Counting rational points over number fields on a singular cubic surface

Christopher Frei

(Submitted on 2 Apr 2012)

A conjecture of Manin predicts the distribution of  $K$ -rational points on certain algebraic varieties defined over a number field  $K$ . In recent years, a method using universal torsors has been successfully applied to several hard special cases of Manin's conjecture over the field  $\mathbb{Q}$  of rational numbers. Combining this method with techniques developed by Schanuel, we give a proof of Manin's conjecture over arbitrary number fields for the singular cubic surface  $S$  given by the equation  $w^3 = x y z$ .

Comments: 22 pages, 1 figure

Subjects: **Number Theory (math.NT)**; Algebraic Geometry (math.AG)

MSC classes: 11D45 (Primary) 14G05 (Secondary)

Cite as: [arXiv:1204.0383v1](#) [math.NT]

## Submission history

From: Christopher Frei [[view email](#)]

[v1] Mon, 2 Apr 2012 12:17:48 GMT (23kb)

[Which authors of this paper are endorsers?](#)

## Download:

- [PDF](#)
- [PostScript](#)
- [Other formats](#)

Current browse context:

**math.NT**

[< prev](#) | [next >](#)

[new](#) | [recent](#) | [1204](#)

Change to browse by:

[math](#)

[math.AG](#)

## References & Citations

- [NASA ADS](#)

## Bookmark (what is this?)



Link back to: [arXiv](#), [form interface](#), [contact](#).