

**Zarkhin, Yuri G.**

**p-adic heights on abelian varieties.** (English) Zbl 0707.14040

Sémin. Théor. Nombres, Paris/Fr. 1987-88, Prog. Math. 81, 317-341 (1990).

[For the entire collection see [Zbl 0686.00006](#).]

The author explains how to unify two treatments of p-adic height- functions. In general one obtains a height-pairing on universal vector- extensions. One then splits the extensions (in the category of p-adic Lie-groups) using a splitting on de Rham cohomology. Such a splitting exists canonically for ordinary abelian varieties and also in the CM- case.

Reviewer: [G.Faltings](#)

**MSC:**

- [14K15](#) Arithmetic ground fields for abelian varieties
- [14G40](#) Arithmetic varieties and schemes; Arakelov theory; heights
- [14G20](#) Local ground fields in algebraic geometry
- [14K05](#) Algebraic theory of abelian varieties
- [14K22](#) Complex multiplication and abelian varieties

Cited in **2** Reviews

**Keywords:**

[universal vector extension](#); [p-adic height](#); [height-pairing](#); [de Rham cohomology](#)