Lutz, Élisabeth
Sur les approximations diophantiennes linéaires p-adiques. (French) ┃Zbl 0064.28401┃
Actualités scientifiques et industrielles. 1224. Publications de l'Institut de Mathématique de l'Université de Strasbourg. XII. Paris: Hermann & Cie. 106 p. (1955)..

This little book gives a very readable account of the present position in the theory of linear Diophantine approximations in the P-adic fields The material roughly corresponds to that considered, in the real case, in chapters 5, 6, 7 of *J. F. Koksma*'s book [Diophantine approximations (German) Berlin etc.: Springer-Verlag (1936; Zbl 0012.39602)]. A great deal of the results is due to the author herself. For the older theory, see, in particular, *H. Turkstra* [Metrische Beiträge zur Theorie der diophantischen Approximationen im Körper der p-adischen Zahlen. (Dutch. German summary) Amsterdam: Diss. 142 S. (1936; Zbl 0014.34504)].

Contents: I. P-adic spaces. Measure. Hyperconvex forms and associated lattices. II. General results on linear Diophantine approximations in the P-adic field. III. The existence of linear systems having remarkable Diophantine properties. The P-adic analogue of Kronecker's theorem. IV. Metrical results.

Throughout the book, both homogeneous and inhomogeneous results are studied. The analogy of the results found to those in the real case is striking. It seems probable that many of the theorems of this book may have interesting applications in other subjects, e. g. in the theory of algebraic number fields.

Reviewer: Kurt Mahler (Manchester)

For a scan of this review see the web version.

MSC:

11J61	Approximation in non-Archimedean valuations
11-02	Research exposition (monographs, survey articles) pertaining to number theory
11J83	Metric theory
11J04	Homogeneous approximation to one number

Cited in **1** Review
Cited in **21** Documents

Keywords:

linear p-adic diophantine approximation