

Bugeaud, Yann

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**Linear forms in logarithms and applications.****IRMA Lectures in Mathematics and Theoretical Physics 28. Zürich: European Mathematical Society (EMS) (ISBN 978-3-03719-183-5/pbk; 978-3-03719-683-0/ebook). xvi, 224 p. (2018).**

The book is a collection of the present results on linear forms in the logarithms of algebraic numbers, together with its applications, useful both for researchers and students.

The classical chapter of the theory of Diophantine number theory was closed in 1966 and a new chapter was opened as professor Alan Baker published his revolutionary new ideas in mathematics about linear forms in the logarithms of algebraic numbers, establishing his effective methods. Short afterwards in 1971, he was awarded the Fields Medal for his works, that influenced wide parts of number theory. The book of Yann Bugeaud is a summary of Baker's theory and its applications.

The book is carefully written to include all details and to present them in a way, that can be very well used both by researchers and by interested university students. The author presents results on linear form in complex logarithms,  $p$ -adic logarithms and elliptic logarithms, involves also theorems on simultaneous linear forms in logarithms. Special estimates on linear forms in two logarithms are discussed in separate chapters.

The book includes applications of Baker's theory to some well-known types of Diophantine equations, such like Thue equations, superelliptic and hyperelliptic equations, Ramanujan-Nagell equation, Catalan equation,  $S$ -unit equations. Among other topics, the greatest prime factor of  $2^n - 1$  is discussed, as well as the relation of Baker's theory to  $abc$ -conjecture.

The book is completed with an appendix, containing the basic knowledge on Diophantine approximation, algebraic number fields, heights, prime number theory, and even tools from complex and  $p$ -adic calculus. An extensive bibliography is given. *István Gaál (Debrecen)*