Title: Liouville numbers in the non-archimedean case

Author(s): Tuangrat Chaichana, Takao Komatsu and Vichian Laohakosol

Basic results about real Liouville numbers are investigated in three non-archimedean settings, referred to as the non-archimedean case, comprising the field of p-adic numbers, the function field completed with respect to the degree valuation and the function field completed with respect to a prime-adic valuation. The result of Erdős that every real number is representable as a sum, and as a product of two real Liouville numbers is shown to hold in the non-archimedean case. The concept of Liouville continued fractions is also considered.

Address:
Tuangrat Chaichana
Department of Mathematics
Faculty of Science
Chulalongkorn University
Bangkok 10330
Thailand

and

The
Centre of Excellence
in Mathematics
CHE, Si Ayutthaya Rd.
Bangkok 10400
Thailand

Address:
Takao Komatsu
Graduate School of Science
and Technology
Hirosaki University
Hirosaki 036-8561
Japan

Address:
Vichian Laohakosol
Department of Mathematics
Faculty of Science
Kasetsart University
Bangkok 10900
Thailand