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Decidable theories of pseudo- p -adic closed fields. (English. Russian original) [Zbl 0717.12005](#)
Algebra Logic 28, No. 6, 421-438 (1989); translation from *Algebra Logika* 28, No. 6, 643-669 (1989).

Let K a field and Γ an ordered Abelian group. A valuation $\phi : K \rightarrow \Gamma \cup \{\infty\}$ is called p -valuation if $\text{char}(K) = 0$, $\phi(p)$ is the least element of Γ greater than zero, and the residue class field is the p -element field. A field K is called PpC-field if $\text{char}(K) = 0$ and K is existentially closed in every regular totally p -adic extension of K . We recall that the theory of the class of PpC-fields is undecidable. The author proves that the theory of maximal PpC-fields and the theories of the classes of PpC-fields with finitely generated absolute Galois groups are decidable.

Reviewer: [Dimitru Buşneag \(Craiova\)](#)

MSC:

[12L05](#) Decidability and field theory
[03B25](#) Decidability of theories and sets of sentences
[12J12](#) Formally p -adic fields

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Keywords:

decidability; pseudo p -adic closed field; valuation; PpC-field; maximal PpC-fields; Galois groups

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