Finiteness conditions of $\mathfrak{P}$-adic continued fractions for number fields

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For a prime ideal $\mathfrak{P}$ of the ring of integers of a number field K, we give a general definition of $\mathfrak{P}$-adic continued fraction, which includes the classical definitions of p-adic continued fractions. We give some necessary and sufficient conditions on the arithmetic of K ensuring that every $\alpha \in K$ admits a finite $\mathfrak{P}$-adic continued fraction expansion, addressing a similar problem posed by Rosen in the archimedean setting. This is a joint work with L. Capuano and N. Murru.