

ON THE STRUCTURE OF COMPACT SUBSETS OF \mathbb{L}_p

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ABSTRACT

In this paper we describe the structure of \mathbb{L}^k , the completion of an algebraic number field (finite or not) L with respect to the p -adic spectral norm, we extend the classical “Primitive Element Theorem” for \mathbb{L}^k and we describe the structure of any G_p -equivariant compact subset of \mathbb{L}_p as a pseudo-orbit of an element of \mathbb{L}_p° , the completion of \mathbb{L} relative to the same norm. Some other unusual connections between a class of special elements of \mathbb{L}_p° and the G_p -equivariant Cantor compact subsets of \mathbb{L}_p are given.