CLOSED SET OF FINITARY FUNCTIONS FROM $\mathbb{Z}_q$ TO $\mathbb{Z}_p$

STEFANO FIORAVANTI

Author: S. Fioravanti.
Co-Authors: E. Aichinger JKU, S. Kreinecker JKU.

Abstract. We investigate the finitary functions from $\mathbb{Z}_q$ to $\mathbb{Z}_p$, for two distinct prime numbers p and q. A (p, q)-linear closed clonoid is a subset of these functions which is closed under $+_p$ and the composition from the right with linear mappings.

We give a characterization of these subsets of functions through the invariant subspaces of the vector space $\mathbb{Z}_p^{q-1}$ via a certain linear transformation of order $q-1$. Furthermore we prove that each of these subset of functions it is completely determined by its unary functions.
This work was supported by the Austrian Science Fund FWF (P29931).

Institute for Algebra, JOHANNES KEPLER UNIVERSITY LINZ, Altenberger Strasse 69, 4040 Linz, Austria
E-mail address: stefano.fioravanti@jku.at

Date: 15/01/2018.