



**CYCLIC CODES VIA IDEMPOTENTS OVER THE RING**

$$\mathbb{Z}_{p^k}[x]/\langle x^n - 1 \rangle$$

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**Abstract**

A method of calculating idempotent generators for a  $\mathbb{Z}_{p^2}$ -cyclic code from the idempotent generators of  $\mathbb{Z}_p$ -cyclic code is presented.

**Keywords and phrases:** cyclic code, group algebra, generators and idempotents of  $\mathbb{Z}_{p^2}$ -cyclic codes.