

ABSTRACT. Let  $E$  be a cyclic extension of  $p$ th-power degree of a field  $F$  of characteristic  $p$ . For all  $m, s \in \mathbb{N}$ , we determine  $K_m E / p^s K_m E$  as a  $(\mathbb{Z}/p^s \mathbb{Z})[\text{Gal}(E/F)]$ -module. We also provide examples of extensions for which all of the possible nonzero summands in the decomposition are indeed nonzero.