1103-16-58 **Leonid Krop*** (leonard.krop@gmail.com), Department of Mathematics, DePaul University, Chicago, IL 60614. *Counting number of isomorphism classes of extensions.*

For brevity, let us call a Hopf algebra nontrivial if it is neither commutative, nor cocommutative. We determine the number of nonisomorphic Hopf algebras H which exhibit an extension
$\Bbbk^G \to H \to \Bbbk C_p$ with $G = C_{p^e} \times C_p, e \geq 1$ and p odd. The even order case has been done by
Y. Kashina (2003).

Applying general theory for counting isomorphism classes of extensions with an arbitrary finite p-group G we prove the following

Theorem: For any $e \geq 2$ there are $2p + 8$ nontrivial Hopf algebras in the class of Hopf algebras which are extensions of $\Bbbk^G$ by $\Bbbk C_p$.

Combining with some of our previous results the Theorem allows us to complete calculation of the number of non-isomorphic nontrivial semisimple Hopf algebras of dimension p^4 containing an abelian group of group-likes of order p^3. That number equals to $5p + 24$ if $p > 3$, and 33, otherwise. (Received August 09, 2014)