

1024-12-12

Ido Efrat* (efrat@math.bgu.ac.il), Department of Mathematics, Ben-Gurion University of the Negev, P.O. Box 653, 84105 Be'er-Sheva, Israel. *Demushkin Galois groups and primary elements.*

Let p be a prime number, let F be a field containing a root of unity of order p , and let $G_F(p)$ be its maximal pro- p Galois group. When F is a p -adic field, $G_F(p)$ is a Demushkin group. We discuss the problem whether any other Demushkin groups can be realized as $G_F(p)$ for some field F . Our approach uses new connections between generalized Milnor K-theory and valuations, via the so-called primary elements. (Received October 28, 2006)