

Group Shunkov, saturated groups $L_2(p^n), U_3(2^n)$

Ekaterina Pronina, Alexey Shlepin
Krasnoyarsk, Russia

Arbitrary group is called a Shunkov group, if every cross section by a finite subgroup of any pair of conjugate elements of prime order generates a finite subgroup. We emphasize that a Shunkov group, generated by elements of finite order, is not required to be periodic. Examples of such mixed groups already exist in the class of soluble groups [1]. Therefore, Shunkov groups pressing question about the locations of its elements of finite order, in particular, are they a characteristic subgroup of $T(G)$ — periodic part? Under the periodic part of $T(G)$ of a group G is the subgroup generated by all elements of finite order in G , provided that it is periodic.

In [2] considered groups Shunkov, saturated groups $L_2(p^n), Sz(2^{2m+1})$. s shown that it has a periodic part, which, is isomorphic to either $L_2(P)$, or $Sz(Q)$ for suitable locally of finite fields P and Q .

In the present work, the study groups Shunkov, saturated groups $L_2(p^n), U_3(2^n)$.

Obtained the following result.

Theorem. The group Shunkov saturated with groups $L_2(p^n), U_3(2^n)$ has a periodic part $T(G)$, is isomorphic to either $L_2(P)$, or $U_3(Q)$, where P and Q - suitable locally finite field.

References

- [1] Cherep A.A., On the set of elements of finite order in a primitive finite group. *Algebra and logic*. **4** (1987) 518-521.
- [2] Filippov K. A., The group with the terms of saturation. *Dis. Doc. Phys.-Mat. of Sciences, Yekaterinburg* (2012).