

On periodic subgroups of the finitary linear group over an integral domain

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Let $FL_\nu(K)$ be the finitary linear group where K is a ring with the unit, ν is a linearly ordered set. $FL_\nu(K)$ is investigated in [1, 2]. In particular the finitary unitriangular group $UT_\nu(K)$ is studied in [2].

We study periodic subgroups of the finitary linear group $FL_\nu(K)$ in the case where K is an integral domain, ν is a countable set.

The main result of this paper is the theorem.

Theorem. *Let G be a periodic subgroup of $FL_\nu(K)$, K be an integral domain, ν be a countable set. Then G is a (locally nilpotent)-by-countable and locally finite group.*

References

- [1] V. M. Levchuk, Some locally nilpotent rings and their adjoined groups. *Math. Notes* **42** (1987) 631–641.
- [2] Yu. I. Merzlyakov, Equisubgroups of unitriangular groups: the criterion of self-normalization. *Reports of the Academy of sciences* **339** (1994) 732–735.