

Limit periodic homogeneous linear difference systems

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We analyse limit periodic homogeneous linear difference systems whose coefficient matrices belong to a group. We find such groups that the systems, which do not have any non-zero asymptotically almost periodic solution, form a dense subset of the set of all considered systems. A closer examination of the used methods reveals that the problem is treated in such a generality that the entries of coefficient matrices are allowed to belong to a metric field. This research is a continuation of our previous research about non-almost periodic solutions of almost periodic systems. Especially, the presented results improve the main results of [1], [2]. This is a joint work with Petr Hasil.

References

- [1] *M. Veselý*: Almost periodic homogeneous linear difference systems without almost periodic solutions. *J. Difference Equ. Appl.* *18* (2012), 1623–1647.
- [2] *P. Hasil, M. Veselý*: Almost periodic transformable difference systems. *Appl. Math. Comput.* *218* (2012), 5562–5579.