Mathematics > General Topology

# Linear topologies on $\Z$ are not Mackey topologies

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In this article it is shown that to every non-discrete Hausdorff linear topology on $\Z$ other metrizable locally quasi-convex group topologies can be associated which are strictly finer than the linear topology and such that the character groups coincide. Applying this result to the $p$-adic topology on $\Z$, we give a negative answer to the question of Dikranjan, whether this topology is Mackey.

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