

Subgroups of infinite matrices

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In number of papers Z. I. Borevich and N. A. Vavilov described subgroups of classical groups containing diagonal matrices over semilocal rings, using the notion of *net subgroups*. We extend these results to some infinite dimensional linear groups, describing, for example, the subgroups of the group of infinite upper triangular matrices, containing the diagonal matrices, under additional restrictions on the ring. All such subgroups lie "near" net subgroups, in intervals defined by net subgroups. Similar results can be obtained also for other infinite dimensional linear groups and some fixed subgroups. For example, subgroups of general linear group of infinite matrices containing block-diagonal matrices also lie near net subgroups. From the other hand, all parabolic subgroups of Vershik-Kerov's group are exactly net subgroups. In our talk we give a survey of these results.