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2. Algebra

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On some infinite dimensional linear groups

On some infinite dimensional linear groups. Let F be a field, A a vector space over F. Groups of non-singular linear transformations of A are the oldest subjects of investigation. For the case when A is finite dimensional, the theory of linear groups is one of the best-developed in algebra. However, for the case when dimA is infinite the situation is totally different: the investigation of this case requires some substantial additional restrictions. Finiteness conditions, or more precisely, conditions of finite-dimensionality, are very natural restrictions here. We say that G is an artinian linear group if the FG-module A is artinian, i. e. A satisfies the minimal condition on submodules. In our talk we are describing hyperfinite linear artinian groups.