Infinite matrices and the Jordan form

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Abstract

The talk concerns the concept of a Jordan canonical form of a matrix. As it is well-known if F is an algebraically closed field, then every square matrix over F is similar to its Jordan form. The aim of the presentation is to introduce an analogue of the Jordan form of a $\mathbb{N} \times \mathbb{N}$ matrix and sketch the proof of the theorem stating that for every upper triangular $\mathbb{N} \times \mathbb{N}$ matrix a there exists a column finite (i.e. possessing in each column only a finite number of nonzero entries) matrix x such that $x^{-1}ax$ is a generalized infinite Jordan matrix.

Keywords

Jordan canonical form, Infinite matrix, Infinite dimensional vector space.

References

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