

SEMINÁRIO

LÓGICA MATEMÁTICA

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Gaussian elimination for flexible systems of linear inclusions

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ABSTRACT:

Flexible systems are linear systems of inclusions in which the elements of the coefficient matrix are external numbers in the sense of nonstandard analysis. External numbers represent real numbers with small, individual error terms. Using Gaussian elimination, a flexible system can be put into a row-echelon form with increasing error terms at the right-hand side. Then parameters are assigned to the error terms and the resulting system is solved by common methods of linear algebra. The solution set may have indeterminacy not only in terms of linear spaces, but also of modules.

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