

Solving Systems of Linear Equations by Means of Mathematical Spectra

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ABSTRACT. This paper is a continuation of papers [3, 11]. In [11] we describe an interpreter applicable on mathematical spectra. In [3] we describe applications of the interpreter in computation of determinants of real matrices and exact computation of determinants of integer matrices, using the methods presented in [8] and [9]. In this paper we investigate application of the interpreter in solving a system of linear equations. In the direct step during the solving of a given system of linear equations, we use several functions introduced in [3], together with the functions described in [11]. In the direct step we use more effective of two methods, introduced in [9]. For the inverse step we introduce a new type of mathematical spectra, called the appended spectra, and define the corresponding function (`$append`) for its implementation.

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1991 *Mathematics Subject Classification*. Primary: 68C05; Secondary: 15A19.

Key words and phrases. Mathematical spectra, interpreter, Linear equations, Means of mathematical spectra, Appended spectra, Corresponding function.

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