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ON THE GAME PROBLEM OF CONTROLLING A STACK OF TRAJECTORIES IN DELAY EQUATIONS

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ABSTRACT: This article deals with the game problem of controlling a stack of trajectories in delay equations. When solving a system of equations and variables are given in plural form, i.e. in parentheses. Results are also plural. The assign function is used to make them look normal. It assigns the values from the array (within the curly braces) to the variables.

KEYWORDS: approximation, equations, plural form, variables, amplitude-phase characteristic, equations.

INTRODUCTION

Delayed linear systems are automatic systems with the same structure as simple linear systems (Section II), which differ from the latter in that there is a time interval between the initiation of changes in one or more of their links is available the amount of output (after the input changes) is determined by a quantity called the delay time, and this delay time remains constant throughout the next run of the process.

At first approximation, pipelines or long power lines entering the links of the system can be characterized by a certain amount of delay.

The magnitude of the delay in the connection can be determined experimentally by taking the time characteristic. For example, if the reference is given to the input with a jump of a certain value taken as unity, the output will be the experimental curve shown in the figure.

THE MAIN FINDINGS AND RESULTS

Note that the same experimental curve according to the graph in. can also be interpreted as the time characteristic of a simple second-order aperiodic coupling with Eq. moreover, and k can be calculated from the ratios written for a given bond, by some measurements on the experimental curve, or by other methods.

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Thus, from the point of view of the transient property, a real connection roughly described by a first-order equation with a backward argument can often be described with the same degree of approximation as an ordinary second-order differential equation. Decide which of these equations best fits the given in the case of a real link, you can also compare their amplitude-phase characteristics with the experimentally obtained amplitude-phase characteristic, which represents its dynamic characteristics during forced oscillations. The construction of amplitude-phase characteristics of delay connections is considered below. For the uniformity of writing the equations, we express the second of the relations for the delay element in the form of an operator. Problems for delay equations, consider a variational problem in which the control system determines the phase trajectory of the system via the Cauchy problem for the delay equation.

In the literature, such systems are often called a system of simultaneous equations, that is, where the dependent variable of one equation is simultaneously a variable in one or more other equations (but already as an independent one) may appear. In this case, the traditional distinction between dependent and independent variables becomes meaningless. Instead, it distinguishes between two types of variables. These are, first of all, mutually dependent variables (endogenous), it is necessary to study their influence on each other (matrix A in the Ay t term of the above system of equations). Second, the predefined variables that should affect the first, but do not experience them, are lag variables, i.e. lagged (second term) and exogenous variables defined outside the given system of equations.

CONCLUSION

However, for the equations with more or less comprehensive specification of common types of delays and the remainder, there are still no sufficiently reliable results regarding the properties of calculations. Thus, estimates for a regression equation with a general polynomial lag form are only consistent and estimates for equations with lagged exogenous and endogenous variables obtained by the three-stage least squares method.

REFERENCES

1. Bekzod, T., & Nigina, I. (2019). Computer technologies in the education of preschool children. In Bridge to science: research works (pp. 25-26).
2. Abobakirovich, A. B., & Ugli, T. I. H. (2019). Research of convective heat transfer in solar air heaters. Наука, техника и образование, (9 (62)), 16-18.
3. Abobakirovich, A. B., Sodikovich, A. Y., & Ogli, M. I. I. (2019). Optimization of operating parameters of flat solar air heaters. Вестник науки и образования, (19-2 (73)), 6-9.
4. Abdukarimov, B. A. (2019). Research of convective heat transfer in solar air heaters. Наука, техника и образование, (9), 16-18.