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## Identification of the Optimal Parameters for Forecasting the State of Technical Objects Based on the Canonical Random Sequence Decomposition

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### Краткое описание

Method of calculation of the optimal parameters of a predictive model on the basis of a power polynomial canonical expansion of a random sequence of state changes of a technical object or system is offered. The interval between measurements and number of sampling points, the duration of aftereffect and also the order of probabilistic relation are calculated parameters. The flow chart of the algorithm for determining specified parameters is presented in the work as well. The use of optimal characteristics will allow to take into full consideration the properties of an investigated random sequence and consequently to maximize the quality of solving the problem of individual forecasting the reliability of technical objects. © 2020 IEEE.

### Ключевые слова автора

canonical expansion; forecasting of a random sequence; optimal parameters; reliability of technical objects

Включенные в указатель ключевые слова

### Контролируемые термины инженерии

Food products; Predictive analytics

### Неконтролируемые термины инженерии

Method of calculation; Optimal parameter; Predictive modeling; Probabilistic relations; Random sequence; Sampling points; Technical objects

### Основной заголовок инженерии

Parameter estimation

### Темы SciVal

**Название темы** Random Sequence; Smart Home; Automation

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