

INFORMATION TECHNOLOGY FOR POWER EQUIPMENT MONITORING

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The efficiency of electric power companies is inextricably tied to the reliability of the main technological equipment. The reliability depends on the organization of planned and preventive repairs and monitoring of the technical condition of electric power equipment.

According to that fact, in order to support the activities of electricity companies, equipment monitoring systems are needed. They strive to optimize the operations of power equipment, reduce electricity consumption and prevent accidents, as well as increase the service life. This is a continuous monitoring of the technical condition of various electrical equipment.

To solve the problem of monitoring and prediction of the conditions of power equipment, the software component was developed. It allows the user to learn the necessary information about the conditions of power equipment, register the main characteristics of equipment during performed operations, and assess the current state of equipment. In addition, the software application contains records of equipment failure history. Based on this data, mean time to repair and mean time to discover can be predicted (see Fig. 1). Fig. 1 below demonstrates predicted mean time to repair (in minutes) for 13 measurement periods ahead.

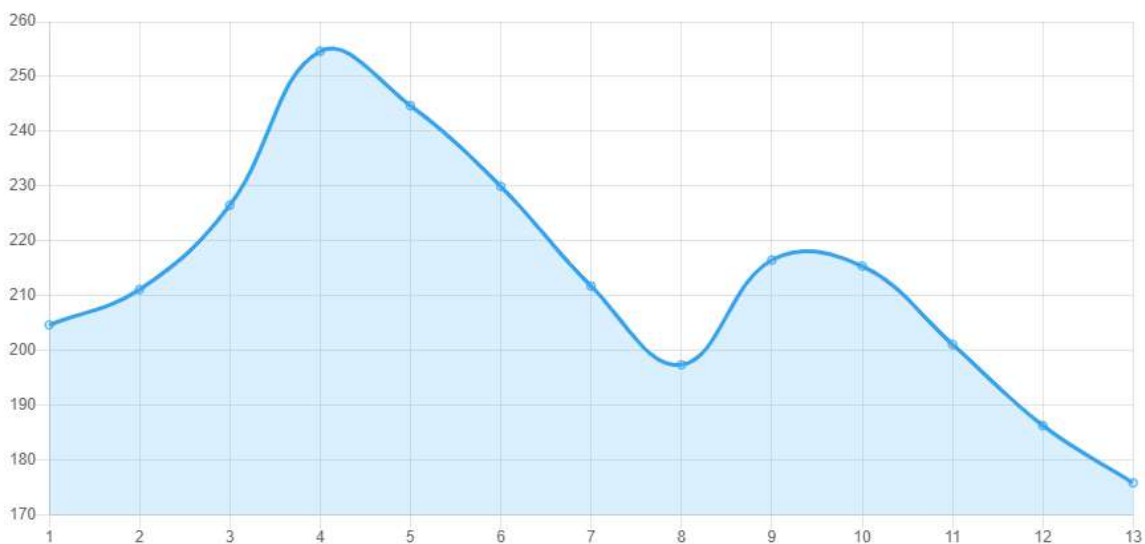


Fig. 1. – Predicted mean time to repair

The method of exponential smoothing was chosen as a forecasting method for the elaboration of medium-term forecasts [1].

References:

1. Exponential Smoothing: Definition of Simple, Double and Triple // URL: <https://www.statisticshowto.com/exponential-smoothing/>