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## **ELECTROMAGNETIC VIBRATION DISTURBING FORCES OF POWERFULL TWO- AND FOUR-POLE TURBOGENERATORS OF NUCLEAR POWER PLANTS OF UKRAINE**

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### **Abstract**

*A comparative analysis of the electromagnetic vibration disturbing forces occurring in the stator of two- and four-pole powerful turbogenerators operating on nuclear power plants of Ukraine on the basis mathematical model of the electromagnetic field was consider. The spectral analysis of of the electromagnetic vibrational forces was carry out. A spectrum of the electromagnetic vibrational forces has significant harmonics of frequencies 200, 300, 400 Hz, which are multiples of 100 Hz of the main vibrational force was show. Experimental investigation of the eigenfrequency modes of the end of stator winding was carry out. There is a danger of response eigenfrequency modes at the specified multiple frequencies. Moreover, due to the design structure of two-pole turbogenerators are more dangerous. References 5, figures 8,*

tables 2.

**Key words:** turbogenerator, electromagnetic vibration disturbing forces, implicit-pole rotor, eigenfrequency, spectral analysis, response.

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