

J. Gharakhanlou, I. Kazachkov

National Technical University of Ukraine “Kyiv Polytechnic Institute”, Kyiv, Ukraine

### **Development and Investigation of Aggregate Models for Nuclear Objects with Time Shifts**

The development and investigation of aggregate models for nuclear objects with shift arguments (time delays and forecasts) are discussed. The nonlinear differential equations of the model are described and the Cauchy problem is stated. The specific features of the mathematical model for potentially hazardous nuclear objects are analyzed and computer simulation is presented. The model is recommended for studying the behavior of objects and identifying emergency modes and for tactical and strategic planning of their development.

Keywords: aggregate model, delay, forecast, critical modes, potentially hazardous object.