

COULD WE PREDICT EXTREME EVENTS IN COMPLEX SOCIO-ECONOMICAL SYSTEMS

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One of the most important features of nonlinear complex systems is persistent reoccurrence of abrupt overall changes, or “extreme events”. A possible approach to prediction of such events in complex socio-economical systems is discussed. Prediction of the beginning of the unemployment rate increasing period and prediction of the outcome of the US Presidential elections are considered as examples. The prediction is based on heuristic searching for phenomena preceding extreme events. The methodology used is pattern recognition for small samples. The input data for the prediction algorithms are monthly values of macroeconomic indicators (in the case of the beginning of the unemployment rate increasing period) and the answers to the questionnaires describing the pre-election situation (in the case of the Presidential elections).