Micro-risk propagation model based on time fluctuation factor

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Abstract—Network communication of risk has always been one of the important topics in the study of complex network dynamics. In the real world, the spread of risk in the network depends not only on the topology of the network, but also on time changes. However, the current micro-description of risk in network communication is insufficient. Based on the point-to-point network micro-propagation model theory, the risk propagation window is established, and the comprehensive Time fluctuation factor is introduced to describe the model in more depth. During the experiment, the propagation density was used to quantify the extent of the spread and was tested on the network of a large bank. The experimental results show that the accuracy and real-time performance of the model are improved for the original model.

Keywords-risk propagation; propagation window; integrated time fluctuation factor