

Supervisor's Report  
About the Thesis by mgr. Lenka Slámová  
“Generalized Stable Distributions and Their Applications”

The role of stable distributions in probability theory is well known. Loosely speaking, one could say that stable distributions have to describe similarity of a system built by summing random variables and its subsystem. However, it is clear, that one can meet such similarity not only for the case of systems build from continuous random variables, but for systems of discrete random variables. The main aim of the thesis was the study of possible notions of stability that is the similarity between an additive system and its subsystem.

Mgr. Slámová started her studies with definitions of discrete stable distributions for the cases of non-negative integer numbers as well as for the set of all integers. In the first case, she succeeded to generalize previous definition, while in the second case the definition appears to be completely new. Basing on the definitions, mgr. Slámová gave a model of scientific citation rating. She proposed a new application of discrete stable distributions to analysis of financial markets. Theoretical part of the thesis is concluded by proposal of a general notion of stability – so called casual stability. This notion seems to be new and very interesting.

Mgr. Slámová worked on the thesis independently. While working she showed her extraordinary ability to formulate and to solve interesting and essential problems in the field of Probability Theory and its applications.

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Professor, Dr. Sc. Lev Klebanov