

Title: Chebyshev type inequalities

Author: Vladimír Vachálek

Department: Department of Probability and Mathematical Statistics

Supervisor: doc. RNDr. Daniel Hlubinka, Ph.D., Department of Probability and Mathematical Statistics

Abstract: In the presented thesis we deal with Chebyshev type inequalities for bounded random variables. In the first chapter we introduce and prove Hoeffding, Bennett and Bernstein inequalities and explain some relationships. In the second chapter we show how tight are the estimates given by each inequality compared to true probability and to the estimate given by central limit theorem on four distributions with graphical processing of results.

Keywords: Chebyshev inequality, Hoeffding inequality, Bennett inequality, Bernstein inequality