

INTRODUCTION

The volume comprises articles presented at “The 27th International Conference on Multivariate Statistical Analysis”. Organization of the conferences was charged to the Chair of Statistical Methods, University of Łódź and the Polish Statistical Association. The scientific programme of the conferences is very broad and covered most of the statistical problems, such as multivariate distributions, multivariate statistical tests, nonparametric inference, factor analysis, cluster analysis, Bayesian inference, multivariate Monte Carlo analysis, data mining, robust procedures, pattern recognition and applications of multivariate methods in marketing, finance, insurance, capital markets, risk management, medicine.

The volume consists of the following thematic groups: The History of Polish Statistics, Estimation and Regression Analysis, The Theory of the Probability and Statistical Tests, Classification Methods, Other Topics and Applications of Statistical Methods.

Section I is devoted two Polish statistics. This section includes the following articles: Czesław Domański – *First estimation studies of Tadeusz Pilat*, Jan Berger – *Professor Witold Załęski*.

The second thematic group includes papers concerning the method of estimation and regression analysis. This section includes the following papers: Aleksandra Baszczyńska, Dorota Pekasiewicz – *Selected methods of interval estimation of the median. The analysis of accuracy of estimation*, Wojciech Gamrot – *Estimation of a quantile using Pareto sampling scheme*, Dorota Pruska – *Robustness of the deepest regression method with respect to outliers for selected sampling schemes*, Anna Szymańska – *Application of Bayesian estimators to the estimation rates of net premium in CR automobile liability insurance*, Tomasz Żądło – *On prediction of domain total based on balanced panel data*.

Next section is devoted to the theory of probability and statistical tests. This section consist of three papers: Czesław Domański – *Properties of Jarque-Bera test*, Grzegorz Kończak, Janusz L. Wywiał – *On the power of the chi-square test for multidimensional normality*, Dorota Pekasiewicz – *Sequential method for estimating the sample size required for testing hypotheses on the population mean*, Wojciech Zieliński – *Robust test for comparison of two variances*.

Section IV is devoted the classification methods, which are discussed in the following papers: Andrzej Dudek – *Classification via spectral clustering*, Alicja Ganczarek-Gamrot – *The identification of periods with comparable risk on day ahead electric energy markets in Poland*, Iwona Kasprzyk – *Latent class models in the R software*, Jerzy Korzeniewski – *Investigation of the efficiency of a novel algorithm for the choice of variables in cluster analysis on real world data sets*, Mariusz Kubus – *The analysis of some properties of SLIPPER algorithm*, Małgorzata Misztal – *On the application of bundling in medical diagnosis*, Marcin Pelka – *K-nearest neighbour classification for symbolic data*, Dorota Rozmus – *Comparison of clustering accuracy in ensemble approach based on co-occurrence data*, Michał Trzęsiok – *The importance of predictor variables for individual classes in SVM*, Ewa Witek – *An application of mixture models in clustering of the European Union countries*, Waldemar Wołyński – *Effectiveness of decomposition algorithms for multi-class classification problems*.

The last section, entitled “Other Topics and Applications of Statistical Methods”, includes the following papers: Tadeusz Bednarski, Filip Borowicz – *Analysis of non-response causality in labor market surveys*, Jacek Białek – *The definition of the average rate of return of Open Pension Funds in a model with continuous time*, Bronisław Ceranka, Małgorzata Graczyk – *Some construction of optimum chemical balance weighing designs*, Bronisław Ceranka, Małgorzata Graczyk – *Notes about singular chemical balance weighing design*, Anna Czapkiewicz – *The multidimensional weighted ultrastructural model in the cross-section of expected stock returns*, Barbara Kowalczyk – *On selected issues of non-response in the case of business tendency surveys*, Dariusz Lipski – *Multivariable analysis probability plots of production schedule*, Andrzej Mantaj – *Determination and analysis of the areas of scattered two-dimensional sample observations*, Andrzej Mantaj, Robert Pater, Wiesław Wagner – *The influence of left-sided cut-off of temporal series on efficiency of forecasting with the method of indicators of seasonal character*, Andrzej Mantaj, Robert Pater, Wiesław Wagner – *Aspects of linear and median correlation coefficients matrix*, Beata Stolorz, Iwona Markowicz – *The problem of the censorship of data in the retrospective research of unemployment*, Grażyna Trzpiot – *Coherent risk measures in multiperiod models*, Wiesław Wagner – *Analysis of turning points on the example of arrivals of tourists from Slovakia to Poland*, Artur Zaborski – *Geometrical presentation of preferences by using unfolding models*.

Czesław Domański, Katarzyna Bolonek-Lason