INTRODUCTION

The papers of this volume present the latest theoretical achievements in the field of the multivariate statistical analysis and its applications. The articles present the following statistical problems: 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 and health services.

The articles have been divided in the following thematic sections: I. The History of Polish Statistics, II. Estimation and Regression Analysis, III. The Theory of The Probability and Statistical Tests, IV. Classification Methods, V. Time Series Analysis and Other Topics, VI. Applications of Statistical Methods.

Section I is devoted to the history of Polish statistics. The papers presented in this part of the book are the following:

The papers presented in **Section II** deal with estimation and regression analysis. This section includes the following works: Tomasz Jurkiewicz, *Efficiency of the Modified Synthetic Estimator – Monte Carlo Analysis*, Iwona Markowicz, Beata Stolorz, *Application of Logistic Regression for Firms Survival Analysis*, Dorota Rozmus, *Boosting Regression Models*, Dorota Rozmus, *Unbiased Recursive Partitioning Algorithm in Regression Trees*, Wojciech Gamrot, *On Some Estimator of Finite Population Skewness Under Nonresponse*, Agnieszka Orwat, *Bayesian interval Estimation of Sharpe Style Weights in the Model of Style Analysis of the Management of Open Pension Funds*, Grażyna Trzpiot, *Extreme Value Distributions and Robust Estimation*, Janusz L. Wywiał, *Estimation of Mean in Domain When Distribution of Variable is Skewed,* Tomasz Żądło, On *Prediction of the Domain Total Under Some Special Case of Type a General Linear Mixed Model.*

Section III is devoted to the theory of the probability and statistical tests. The mentioned issues are discussed in the following papers: Andrzej Mantaj, Wiesław Wagner, *Models of Probability for Random Variables of Bernoulli Distribution*, Iwona Schab, *Ranking-Based Choice of Regressors in Probability Models*, Czesław Domański, Izabela Wojek, *Remarks on Quantiles of Statistical Distributions of Multivariate Normality Tests Based on Moments.*, Grzegorz Kończak, *On the Modification of the Empty Cells Test.*

The papers presented in **Section IV** deal with classification methods – the list of the papers is the following: Jerzy Korzeniewsk, *A Proposal of Modifica-*

tion of Agglomerative Clustering Algorithms, Arkadiusz Maciuk, *Multidimensional Data Classification – Comparison of Isodata and Approximation by Points Methods*, Daniel Kosiorowski, *Robustness of Depth Based Classification Rules*, Małgorzata Misztal, Maciej Banach, *On Distance-Based Algorithms in Medical Applications*, Michał Trzesiok, *On Some Properties of Support Vector Clustering* , Ewa Nowakowska-Zajdel, Małgorzata Muc-Wierzgoń, Grażyna Trzpiot, Alicja Janczarek, *Classification of Patients With Respect to Some Group of Factors*, Ewa Witek, *On an Improvement of the Model-Based Clustering Method,* Andrzej Dudek, Marcin Pełka, *Effectiveness of Symbolic Classification Trees Vs. Noisy Variables.*

The papers from the **Section V**, which is devoted to the time series analysis and other topics, are the following: Bronisław Ceranka, Małgorzata Graczyk, *Some Remarks About Variance Balanced Block Designs*, Andrzej Dudek, *Multidimensional Scaling for Symbolic Interval Data*, Tadeusz Gerstenkorn, *Introduction to the Problem of Truncated Power Series Distributions*, Alina Jędrzejczak, *Inequality and Welfare Effects of Changes in Income Components in Poland*, Małgorzata Graczyk, *Optimum Chemical Balance Weighing Design for* $p = v = 1$ *Objects Based on Balanced Block Designs*, Jerzy Rembeza, Grzegorz Przekota, *Using of the VAR Model in Analysis of Interest Rates Relationship in Poland*, Bolonek Katarzyna,*The Minority Game and Quantum Game Theory*, Dominik Krężołek, *The Application of M-Garch Model for Examining the Volatility of Financial Assets,* Iwona Kasprzyk, *Graphical Presentation of a Multi –Way Contingency Table in the R Software*, Maciej Nowak, *Multicriteria Analysis Based on Stochastic Dominance and Almost Stochastic Dominance Rulet.*

The last of sections, **Section VI**, deal with applications of statistical methods. The works of this section are as follows: Rafał Czyżyki, *Methods of Analysis of Factors Determining Tourist Attractiveness of Districts*, Marcin Hundert, *Advantages and Disadvantages of the Use of Conjoint Analysis in Consumer Preferences Research*, Ewa Jałowiecka, Piotr Jałowiecki, Arkadiusz Orłowski, *Trends in Cigarettes Consumption in Poland According to Expotential Smoothing and Autoregressive Models*, Marek Karwański, Piotr Jałowiecki, Arkadiusz Orłowski, *The Perspectives of Bayesian Methods for Modeling Financial Reserves in Insurance*, Rafał Klóska, *The Multivariate Statistical Analysis of Tourist Attractiveness of Provinces in Poland*, Joanna Landmesser, *The Survey of Economic Activity of People In Rural Areas – The Analysis Using the Econometric Hazard Models*, Jacek Białek, *The Proposition of Measure of Pension Funds' Effectiveness.*

We hope that the topics of this book are very broad and covered most of the statistical problems.

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