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	Finite Set of Branching Sources and Pseudo-Sources E. Pchelintsev, S. Pergamenshchikov, Efficient Improved Estimation Method for non- Gaussian Regression from Discrete Data S. Bobkov, A. Naumov, V. Ulyanov, Two-sided bounds for PDF's maximum of a sum of weighted chi-square variables Y. A. Demidovich and D. A. Shabanov, On the chromatic number of a random 3-uniform hypergraph V. Melas and D. Salnikov, On asymptotic power of the new test for equality of two distributions G. Christoph and V. V. Ulyanov, Random Dimension Low Sample Size Asymptotics P. Yaskov, Limit of the smallest eigenvalue of a sample covariance matrix for spherical and related distributions A. Veretennikov, On positive recurrence of one- dimensional diffusions with independent switching In memory of Svetlana Anulova (19.10.1952 - 21.11.2020) PART - II: Applications of Stochastic Methods, Y. Makarova, V. Kutsenko, E. Yarovaya, On Two- Type Branching Random Walks and Their Applications for Genetic Modelling A. V. Kryanev, V. V. Ivanov, L. A. Sevastyanov, and D. K. Udumyan, Reconstruction of multivariable functions under uncertainty by means of the scheme of metric analysis A. Nazarov, T. Phung- Duc, S. Paul, and O. Lizyura, Diffusion Approximation for Retrial Queue with Two-Way Communication and Renewal Input V. A. Galkin and A. V. Makarenko, Application of deep learning methods for the identification of partially observable subgraphs under the conditions of a priori uncertainty and stochastic disturbances (using the example of the problem of recognizing constellations) V. Rusev, A. Skorikov, Residual life time of the Gnedenko extreme - value distributions, asymptotic behavior and applications E. Alymova, O. Kudryavtsev, The application of a neural network and elements of regression analysis in the development of a methodology for effective foreign exchange trading E. Bashtova and E. Lenena, Statistical analysis of generalized Jackson network with unreliable servers via strong approximation Korol E.A.,
Sommario/riassunto	Highlighting the latest advances in stochastic analysis and its applications, this volume collects carefully selected and peer-reviewed papers from the 5th International Conference on Stochastic Methods (ICSM-5), held in Moscow, Russia, November 23-27, 2020. The contributions deal with diverse topics such as stochastic analysis, stochastic methods in computer science, analytical modeling, asymptotic methods and limit theorems, Markov processes, martingales, insurance and financial mathematics, queueing theory and stochastic networks, reliability theory, risk analysis, statistical methods and applications, machine learning and data analysis. The 29 articles in this volume are a representative sample of the 87 high-quality papers accepted and presented during the conference. The aim of the ICSM-5 conference is to promote the collaboration of researchers from Russia and all over the world, and to contribute to the development of the field of stochastic analysis and applications of stochastic models.