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Bibliography on Markov chains with a general state space

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BIBLIOGRAPHY ON MARKOV CHAINS WITH
A GENERAL STATE SPACE

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This publication contains a bibliography of papers dealing entirely (or almost entirely) with homogeneous Markov chains (i.e. discrete-time Markov processes) with a general state space (i.e. non-denumerable, possibly abstract state space, possibly continuous state space in an Euclidean space). The bibliography covers the years 1932–1974. The papers are roughly classified according to their basic contents into the following four sections: I. Transition probabilities, their properties, convergence. II. Distributions of random variables. III. Passage and sojourn problems, properties of realizations. IV. General and miscellaneous. In each section, the papers are arranged by the year of their publication, and, within each year, alphabetically by the name of the author. Transliteration of the names of Russian authors and journals is essentially as in Mathematical Reviews.

This bibliography has been compiled from different sources on the basis of the author’s personal notes taken over the years. Thus it represents an effort of a single person only, and hence, naturally, I cannot claim its being complete. Some of the intentional omissions are, e.g.: First, I have omitted the papers dealing mostly with some different topic and containing only shorter paragraphs on our topic in question. Second, I have omitted the papers on those Markov chains which arise as sums of independent random variables, since this is a very vast and much specialized area with its own problems and methods. Third, I have omitted books, since there is a large number of books containing some paragraphs or sections on our topic in question, and since I believe it is much easier to find books than papers; as an exception, I quote now only three books, which have been published not long ago, and which are devoted entirely to general state space Markov chains:

In spite of possible different inadequacies and gaps, intentional and unintentional, I do hope that this bibliography contains the most important papers, and that it might be of some use for mathematicians specializing in this area.

I. Transition probabilities, their properties, convergence

5. Pospisil: Sur un problème de M. M. S. Bernstein et A. Kolmogoroff. Čas. pěst. mat. fys. 65 (1936), 64 – 76.


55. Kim: Approximations of positive contractions on $L^\infty[0, 1]$. Z. Wahrscheinlichkeitstheorie 24 (1972), 335–337.


II. Distributions of random variables


34. Aleškevičius: Limit theorems for sums of random variables defined on a Markov chain. (In Russian.) Litovsk. Mat. Sb. 6 (1966), 633–634.


56. **Formanov**: A uniform bound for the remainder term in the multidimensional limit theorem for homogeneous Markov chains with respect to the class of all measurable convex functions. I. II. (In Russian.) Izv. Akad. Nauk UzSSR (1972), No. 3, 33–37; No. 6, 35–42.


III. Passage and sojourn problems, properties of realizations


IV. General and miscellanea

46. *Sarymsakov*: On the question of existence and uniqueness of solutions of a class


64. **Chung**: The general theory of Markov processes according to Doeblin. Z.


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