V.V. Rykov. D.V. Kozyrev. (Moscow, Russia) — **On sensitivity of stochastic models.** New results is not represented in the talk, but a survey of classic results under new vision is proposed. Stability of output characteristics of different systems to change of their input data and outside influences is one of the key problem of whole natural sciences. For stochastic systems stability often means insensitivity of output systems characteristics to the shape of their input information distributions. Some classic and contemporary results about strong and asymptotic insensitivity output system's characteristics to their input information distributions for such systems as (i) queueing systems, (ii) stochastic networks, (iii) reliability models, (iv) insurance models, (v) controllable stochastic models, (vi) storage models, (vii) models of warranty analysis are represented in the talk.

1. In queueing theory the Sevast'yanov's theorem [1] can be treated as insensitivity of stationary probabilities of Erlang system with Poisson input to the shape of service time distribution with fixed mean service time. Analogously BCMP-theorem [2] stats insensitivity output characteristics for wide class of stochastic networks to the shape of service time distribution in their nodes.

2. Kovalenko [3] find the necessary and sufficient condition for insensitivity of steady state probabilities for redundant renewable system to the shape of its components repair time distributions. For cold double redundant reliability system Gnedenko [4] and Solov'ev [5] prove that under quick restoration the system reliability function tens to exponential form for any life and repair time its components distributions. This result also can be treated as asymptotic insensitivity of the system output characteristics to the shape of its input information distributions. This result has been generalized and proposed in the previous ICSM conference [6] for different classes of system under more general assumption about components failures.

3. For insurance models the approximation of ruin probability in Sparre Andersen model under Cramer-Lundberg condition can be treated as insensitivity of ruin probability to the distributions of claims inter-arrival times. At that the ruin probability is essential sensitive to the shape of claim size distributions.

4. The main result for Markov Decision Processes that the optimal strategy belongs to the class of simple Markov stratgies can be also treated as its insensitivity to the observation of the process up to time decision making. Generalization of the result to the class of Discrete Time Controllable Semiregenerative Processes that are modelled most of applied stochastic systems has been done in [7].

5. Some problems of sensitivity investigation for storage and warranty models are pointed out as a problems for further investigations.

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