

On Close Interaction of Information Theory and Mathematical Statistics

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Dedicated to the 70-th anniversary of Academician Yuri Haik Shoukourian

The first publications of the author (being scientific secretary of the Computing Centre of the Armenian Academy of Science) was [1], where the notion of the E -capacity of the discrete memoryless channel (DMC) was introduced. The paper [2], the most frequently cited by information theory specialists, presents method of derivation of sphere packing bound for error probability of the DMC.

In 1987 the author came back to Computing Centre renamed as Institute for Informatics and Automation Problems and directed in course of long epoch of twenty years (from 1986) by Yury Shoukourian.

In 1992 the author defended the thesis of the doctor of science in Moscow. In recent years E. Haroutunian prepared more than ten candidates and one doctor of science specialized in Information Theory and Mathematical Statistics.

International publications of last 20 years of the author and of his disciples are presented below. They can be classified to three following clusters. Publications in Information theory [1, 2, 4, 6-14, 19, 20, 22, 29-35] are devoted to study of estimates of error probability of various complex information transmission and protection systems. The second group includes investigations of different statistical problems and applications [3, 5, 15-18, 21, 23-28, 37-39]. The third section puts together papers devoted to interaction of methods of information theory and mathematical statistics [36, 40-43].

Except cited below international publications more than forty scientific works were published in Transactions of IIAP and other republican editions.

The research in the noted fields will be continued by staff of the Laboratory of Information Theory and Applied Statistics of IIAP in near future.

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