

Book Review

Constrained Bayesian Methods of Hypotheses Testing: A New Philosophy of Hypotheses Testing in Parallel and Sequential Experiments

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The monograph suggests a new approach to the statistical hypothesis testing, the constrained Bayesian method (CBM). It maintains all the benefits of the basic methods of hypotheses testing. Namely, it uses a data-dependent measure like in Fisher's test; for making decision it exploits *a posteriori* probabilities like in Jeffrey's test and compute Type 1 and Type 2 error probabilities like in Neyman-Pearson's approach. The suggested method, at least formally, is more general than the classical Fisher's, Jeffrey's, Neyman's, Berger's, and (more general) Wald's method. But it surpasses them, for example, by the higher reliability given the sample size, by the lower necessary sample size for ensuring the given levels of error probabilities and some others. Of a considerable interest is the use of CBM's benefits in parallel and sequential experiments. This is one of the main ideas of the monograph; there are many practical examples of this sort. The monograph also contains many historical references.

I believe that the book will be useful for researchers and practitioners studying the modern methods of statistical hypothesis testing, as well as, for graduate and undergraduate students studying statistical methods of parameter estimation.

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