ON BLACK-BOX PROBLEMS

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The author presents some general considerations on black-box problems.

The problem is "how to one can construct the system which satisfies the given input-output correspondence".

The solvability of this problem is discussed, related to the form of black-box (non-linear, linear, separate, stationary type and in deterministic or stochastic process), and the several types of criterion for the coincidence of outputs.

According to the various combinations of forms and criterions the problems have unique or many or no solution.

The paper also shows some applications in neuro-physiological system.