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## COMPUTATIONAL METHODS IN OPTIMAL CONTROL PROBLEMS

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One of the most important concerns in the present-day numerical analysis is the working out of techniques for solving optimal control problems.

The major interest for this methodology is explained by the particular efficiency of using control methods in economy, technology,a.s.o.

Most numeric methods worked out these last years, with a view to solving control problems, rely either on Pontreaghin's maximum principle, or on Bellmann's dynamic programming methodology. Professor Mufti's work represent a synthesis of the main methods, whose theoretical justification is substantiated by Pontreaghin's principle. The discussed control problem is known in the speciality literature under the name of "Bolza's problem". As is known, this problem is sufficiently general, since many control problems, arising in practice, are particular cases of it.

In this context, there are presented gradient-type methods, the successive-sweep method, methods using second-order variation, as well as the Newton-Raphson method, with its generalizations. With a view to facilitating the reading of the matter, without appealing to other works, the author performs a succinct presentation of Pontreaghin's principle.

This work represents a first introduction in the methodology of the numerical treating of optimal control problems. A complete list of references, containing about 50 titles, is put at the disposal of those who desire to go thoroughly into the study initiated by this work.

The way the author succeeded in presenting, in a reduced number of pages, an ample and up-to-date material, of high scientific standard, is quite remarkable.

**St. C.**