On the Class of Linear Optimal Control Problems with Pulse Controls

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Abstract: Varied models of linear programming have been used extensively in studying general problems of mathematics programming. A great number of testing results that has been carried out extensively and elaborately has showed that models and linear programming methods are very efficient even in optimal control problems. However, it is necessary to realize that, each applied environment for concrete linear models has its own particular characteristics and, in fact, the efficiency of the methods depends much on how their own characteristics are considered. Therefore, building up good algorithms to solve problems with special structures in particular and extreme problems in general has become an extremely urgent issue.

In this paper, we consider a class of optimal control problems with pulse controls and the total of pulses energy is bounded. We build a method to solve the linear optimal control problem with pulse controls (the total of pulses energy is bounded). We show that, its own particular characteristics are very important, and introduce an improve algorithm for solving this problem. This paper is also dealing with tests of comparison between this method and some others in solving a class of linear optimal controls.

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