Revised Numerical Methods for Optimal Control of a Class of Singular Integro-Differential Equations

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Abstract

This study presents two numerical methods for the optimal control of a class of singular integro-differential equations. This class of equations includes mathematical models derived from a problem in aeroelasticity. Both of the proposed numerical methods are based on earlier reported approximation schemes. This study also provides motivation for both of the methods presented and includes numerical results confirming that both methods give accurate approximations for the targeted systems.

Keyword：Singular integro-differential equations, cost functions, optimal controls, optimal states