Numerical Optimal Issues to a Class of Neutral Singular Integro-Differential Equations

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Abstract

We consider a new numerical method for optimal controls to a class of singular integro – differential equations originally from aeroelasticity issue. One method by the typical analytical solutions of these equations [6] is reviewed. By testing three typical cost functions, we compare the numerical results, the corresponding optimal controls and the related optimal states and we find that although the new method develop a larger system, CPU time is much shorter than that of old one. But for the accuracy, old method provides better results.

Keyword：optimal control, integro – differential equations