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A shifted Legendre and delay linear

Department

In this paper, we propose a method of a population model and the method is based on the shifted Legendre polynomials and collocation points, transformed into a matrix equation of linear algebraic equations. Also, the numerical solutions are presented for the model and general delay integro-differential equation compared with the known results.

Keywords: Population model; shifted Legendre polynomials; matrix method

Mathematics Subject Classification: 35R10, 35R09

1. Introduction

Integral and integro-differential equations arise in many areas including biology, physics, engineering, etc. In this study, we consider a class of integro-differential models include only females and

$$B(t) =$$

and

$$B(t) =$$

where

$$K(t, x) = K(t - x) : \text{net mat}$$