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A shifted Legendre
and delay linear

Departmen

In this paper, we propose a
of a population model and the
method is based on the shifted
ations and collocation points,
transformed into a matrix eq
linear algebraic equations. Als
ment of solutions is presented
model and general delay integr
compared with the known resu

Keywords: Population model;
endre polynomials; matrix me

Mathematics Subject Classific

1. Introduction

Integral and integro-differenti
areas including biology, physi
In this study, we consider a
models include only females a

$$B(t) =$$

and

$$B(t) =$$

where

$K(t, x) = K(t - x)$: net mat