Department of Mathematics and Statistics Colloquium

A solution to boundary value problems and volterra integral equations with Parker and Sochacki method

Hamid Semiyari, James Madison University

Abstract: G. Edgar Parker and James Sochacki (JMU) developed a method based on Picards iteration method to solve ordinary differential equations (ODEs). The method is an algorithm that generates Maclaurin series solutions to Initial Value Problems (IVPs). The method converts an IVP into a system of first order ODEs, where the right hand side is a polynomial. The advantage of this method is that the method requires only addition and multiplication which makes it a good choice for computation. We demonstrate this method for Two Point Boundary Value Problems (ODE) and Volterra Integral Equations.

Monday, February 24 at 3:45 in Roop 103

Refreshments at 3:30