Dr. Solomon Manukure

MATHEMATICS SEMINAR SERIES

The Mathematics Seminar Series

Presented by The Department of Mathematics

SOME EXACT SOLUTIONS OF NONLINEAR PDES

Guest lecturer: Solomon Manukure, PhD
Assistant Professor
Florida A&M University

Date: 3/25/21
Time: 12:30-1:30 PM

zoom

https://erau.zoom.us/j/91433437076

ABSTRACT:
Nonlinear PDEs have many applications in mathematical physics. They possess many exact solutions such as solitons, rogue waves, lump and breather solutions, which are ubiquitous in fluid mechanics, gas dynamics, optics, plasma physics, atomic physics and many other areas. In this talk, we will discuss some of these exact solutions. We will particularly focus on lump and line-rogue wave solutions of nonlinear PDEs in (2+1)-dimensions which are solvable by the Hirota direct method. Necessary and sufficient conditions for analyticity and rational localization of these solutions will be discussed.

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