Abstract no.: OAS4

## HARDY TYPE INEQUALITIES FOR SUPERQUADRATIC AND SUBQUADRATIC FUNCTIONS

\*O. P. Durojaye, \*\*J. A. Oguntuase \*Department of Mathematics and Statistics, Federal Polytechnic, Ilaro, OgunState, Nigeria, opidi2000@gmail.com \*\*Department of Mathematics, Federal University of Agriculture, Abeokuta,Ogun-State, Nigeria, adedayo@unaab.edu.ng

Some new Hardy type inequalities for superquadratic and subquadratic functions are proved and discussed. We also derive a new class of refined Hardy-type inequalities involving a more general integral operator with a nonnegative kernel. The results obtained unify and extend several inequalities of Hardy-type for superquadratic and subquadratic functions known in the literature. Keywords: Superqudratic, Subquadratic, Inequalities.

## Abstract no.: OAS5

## LAGRANGIAN MECHANICAL SYSTEMS WITH FOUR ALMOST COMPLEX STRUCTURES ON SYMPLECTIC GEOMETRY

Ibrahim Yousif Ibrahim Abd Alrhman Department of Mathematics, West Kordufan University, Sudan iyibrahimi@gmail.com

**Abstract No: OAS6** 

## ULAM-HYERS STABILITY OF GENERAL nth ORDER LINEAR DIFFERENTIAL EQUATIONS

\*R. Murali, \*\*A. Ponmana Selvan PG and Research Department of Mathematics, Sacred Heart College (Autonomous), Tirupattur, India. \*shcrmurali@yahoo.co.in,\*\* selvaharry@yahoo.com

In this paper, we prove the Hyers-Ulam stability and Hyers-Ulam-Rassias stability

of the nth order homogeneous linear differential equation

$$x^{(n)}(t) + \alpha_1 x^{(n-1)}(t) + \alpha_2 x^{(n-2)}(t) + \dots + \alpha_{n-1} x'(t) + \alpha_n x(t) = 0$$

And the  $n^{th}$  non-homogeneous linear differential equation

$$x^{(n)}(t) + \alpha_1 x^{(n-1)}(t) + \alpha_2 x^{(n-2)}(t) + \dots + \alpha_{n-1} x'(t) + \alpha_n x(t) = p(t)$$

Where  $x \in C^{n}[a, b]$ ,  $p(t) \in C[a, b]$  and  $[a, b] \subset \mathbb{R}$ .