

# Indian Journal of Mathematics

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**Mahir Kadakal and İmdat İşcan**

SOME INEQUALITIES FOR  $AH$ -CONVEX FUNCTIONS VIA BETA AND  
HYPERGEOMETRIC FUNCTIONS

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**Abstract:** In this paper, by using an integral identity we obtain some new general inequalities containing all of the Hermite-Hadamard and Bullen type for functions whose second derivatives in absolute value at certain power are arithmetically-harmonically convex via beta and hypergeometric functions. Some applications to special means of real numbers are also given.

**B. Elavarasan and K. Porselvi**

SOME PROPERTIES ON THE COMPLEMENT OF THE IDEAL-BASED ZERO  
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**Abstract:** In this paper, we study the concepts of a  $B$ -prime ideal and a maximal  $N$ -prime ideal of  $I$  for any completely reflexive ideal  $I$  of a near-ring  $N$ . We characterize the complement of the ideal-based zero-divisor graph of near-rings in terms of their connectedness and its diameter.

**Bishnu Hari Subedi**

WANDERING DOMAINS OF THREE TRANSCENDENTAL ENTIRE FUNCTIONS  
AND THEIR COMPOSITIONS

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**Abstract:** We prove that there exist three transcendental entire functions that can have infinite number of domains which lie in the wandering component of the Fatou set of each of these functions and their compositions. This result is a generalization of a result of [5]

**B. Meftah and M. Merad**

NEW OSTROWSKI TYPE INEQUALITIES FOR DIFFERENTIABLE HARMONICALLY  
CONVEX FUNCTIONS VIA FRACTIONAL INTEGRAL

343-357

**Abstract:** In this paper, we prove a new integral identity, and then we establish some new Ostrowski's inequalities for functions whose first derivatives are harmonically convex via Riemann-Liouville fractional integrals.

**George A. Anastassiou**

CONFORMABLE FRACTIONAL SELF-ADJOINT OPERATOR ANALYTIC  
INEQUALITIES

359-379

**Abstract:** We present here conformable fractional self-adjoint operator comparison, Poincaré, Sobolev, Ostrowski and Opial type inequalities. At first we give right and left conformable fractional representation formulae in the self-adjoint operator sense. Operator inequalities are based in the self-adjoint operator order over a Hilbert space.

**Algracia Kharbuki and Madan Mohan Singh**

HURWITZ COMPLEX CONTINUED FRACTION AND COMPLEX THEORY OF  
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381-394

**Abstract:** This paper include two sections, in the first section we give introduction to Pell's equation and Hurwitz complex continued fraction. In the second section, we determine Hurwitz complex continued fraction (HCCF) of  $\sqrt{D}$ , when  $D$  is integer of the type  $-(k^2 \pm 1)$ ,  $-(k^2 \pm 2)$ ,  $-(k^2 \pm k)$  and  $-((mk)^2 \pm k)$ ,  $k$  and  $m$  are positive integers. Then we find all solutions (in Gaussian integers) of the Pell's equation  $x^2 - Dy^2 = 1$  and how these solutions are related to each other.

**Hemant Kumar Nashine and Reza Arab**

SOME NEW TYPE GENERALIZATION OF DARBO'S FIXED POINT AND  
ITS APPLICATIONS TO INTEGRAL EQUATIONS

395-420

**Abstract:** In this paper, we introduce a new  $\mu$ -set contraction condition using control function  $F$  and establish some new generalization of Darbo fixed point theorem associated with measures of noncompactness that generalizes Darbo's fixed point in a different way than the existing results in the literature. Further we establish the existence of solution of a system of nonlinear equation, and a set of triple system of functional equations involving condensing operators in Banach spaces, followed by two supportive examples.

**Chahrazade Bakkari, Najib Mahdou and Abdelkbir Riffi**

COMMUTATIVE GRADED-COHERENT RINGS

421-440

**Abstract:** Let  $R = \bigoplus_{\alpha \in \Gamma} R_{\alpha}$  be a commutative ring with unity graded by an arbitrary grading commutative monoid  $\Gamma$ . We say that  $R$  is a graded-coherent ring if every finitely generated homogeneous ideal of  $R$  is finitely presented. In this paper, we generalize several results on coherent rings to graded-coherent rings.

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