

**BULLETIN OF THE
ALLAHABAD MATHEMATICAL SOCIETY**

Vol. 25, Part 1, 2010

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Kumudini Pati

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Abstract: We define γ -locally γ -regular sets and discuss their properties. Next, we establish more relations between the interior and closure operators defined in terms of the generalized topologies of α -open, semiopen, preopen, b -open and β -open sets generated by a monotonic set valued function γ defined on the power set of a set X and characterize these sets.

Govindappa Navalagi and Md. Hanif Page

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Sigit Nugroho and Zakkula Govindarajulu

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Fu-Gui Shi

MEASURES OF COUNTABLE FUZZY COMPACTNESS AND
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Abstract: In this paper, we introduce the notion of the degree to which an L -fuzzy set is countably fuzzy compact in an L -topological space by means of the implication operator of L .

An L -fuzzy set G is countably fuzzy compact if and only if its countable fuzzy compactness degree $\text{ccom}(G) = \top$. Some properties of countable fuzzy compactness degrees are investigated. In particular, when $L = [0, 1]$, it is different from the corresponding notion presented by Šostak. Analogously we also investigate the degree to which an L -fuzzy set G has the Lindelöf property.

Vipin Kumar Verma, V. K. Katiyar and M. P. Singh

FLOW BEHAVIOR OF A NON-NEWTONIAN FLUID IN PERISTALTIC
MOTION

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Abstract: Peristaltic motion is one of the major mechanisms for fluid transport in many biological systems. It is common mechanism for urine transport from kidney to bladder, food mixing and motility in intestine. Flow behaviour of a non-Newtonian fluid is investigated. It has been found that the surface-active agent changes profiles significantly. Comparisons between the present analysis and available experimental data in the literature show reasonable agreement for the flow parameters.

M. K. Aouf

INCLUSION AND NEIGHBORHOOD PROPERTIES FOR CERTAIN
SUBCLASSES OF ANALYTIC FUNCTIONS WITH NEGATIVE
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67-76

Abstract: In this paper we introduce and investigate two new subclasses of analytic functions of complex order with negative coefficients defined by using Salagean operator. In this paper we obtain the coefficient estimates and the consequent inclusion relationships involving the neighborhoods of various subclasses of analytic functions of complex order.

Ahmad Sabihi

THE NOVEL RESEARCHES TOWARD THE PROOF OF THE GOLDBACH'S
CONJECTURE BY THE NOVEL FUNCTIONS, THE NOVEL CONJECTURE,
THE RIEMANN ZETA FUNCTION, AND THE NOVEL EXPERIMENTAL
COMPUTATIONS 77-123

Abstract: In this paper, at first two new functions are given then three new functions are developed based on the first two functions. Using these functions accompanied by a novel method, the author makes a conjecture to prove “every even integer greater than 2 can be represented by the sum of two prime numbers”. In order to make the proof, firstly a simple function as $h(n) = n - \sum_{j=0}^{k-1} (r_1^j)^2 + f(k)$ is made for each even integer n and is then extended as function $\hat{h}(n) = n - \sum_{j=0}^{k-1} \prod_{i=1}^{i=m} (r_i^j)^{x_i} + f(k)$ where $h(n)$ and $\hat{h}(n)$ denote evens whichever are equal to the sum of two primes. After this extending, it is proved that $\hat{h}(n)$ is a surjective and one to one function onto $2\mathbb{N} - \{2\}$, and is finally concluded where $\hat{h}(n)$ is an identity function from n to n . Hence every even integer > 2 as n will be the sum of two primes. During the proof, the author proves an explicit formula for computing the number of primes in a certain interval by the Riemann Zeta Function. This explicit formula is :
$$\pi(x) = \sum_{r=1}^{\infty} \frac{\mu(r)}{r} \left\{ Li\left(x \frac{1}{r}\right) - \sum_{\gamma > 0} \{ Li\left(x \frac{\rho}{r}\right) + Li\left(x \frac{1-\rho}{r}\right) \} + \int_2^x \frac{du}{u(u^2-1)(\log(u))} - \log 2 \right\}$$
 where denotes the number of primes less than or equal to x . $\mu(r)$ denotes the Möbius function, $Li(x) = \int_2^x \frac{du}{\log(u)}$, and $\rho = \beta + j\gamma$ denotes a zero of the Riemann Zeta Function. The author then defines a special sum on $\pi(n)$ where is called $sum(n) = n - 2\phi(n) - 2D(n) + 2 + 2\pi(n)$. Using $sum(n)$, the number of the primes are obtained by the new functions, $K(n, m)$, $L(n)$, and $M(n, m)$ on the primes. The functions $\hat{h}(n)$, $sum(n)$, $L(n)$, $M(n, m)$ and $K(n, m)$ are called “Sabihi’s functions”. Here is also created a novel conjecture (Sabihi’s conjecture) by the functions $K(N(k), m)$ and $L(N(k))$ where $N(k) = n - \sum_{j=0}^{k-2} \prod_{i=1}^{i=m} (r_i^j)^{x_i} + f(k) - 1$ and k denotes module of the function $\hat{h}(n)$. This conjecture shows that

the function $N(k)$ is an one to one function. In this paper, the author proves if $N(k) = n$, it will be sufficient to be hold true the Sabihi's conjecture. Therefore, if it is true, then the Goldbach's Conjecture will be certainly proved. The new computer's programs have been written and run by Maple 8 and Matlab R2006a's softwares. These programs compute the even numbers from 120 to 100000 for the given conjecture. The graphs are also plotted only for the even numbers 120 to 20000. The results show good agreement and promising. Also, these programs show that the conjecture could be true for the even numbers greater than 100000 to infinity.

Trupti P. Shah and Raju K. George

ASYMPTOTIC EQUIVALENCE OF DISCRETE VOLTERRA SYSTEMS 125-135

Abstract: In this paper, we show that under certain conditions there exists a homeomorphism between solutions of linear discrete Volterra system and its nonlinear perturbation. This correspondence is elevated to asymptotic equivalence under suitable condition. Numerical example is given to illustrate the result.

D. C. Sanyal, K. Das and S. Debnath

ON RELATIVE COEFFICIENTS OF VISCOSITY OF BLOOD THROUGH

NARROW VESSEL

137-147

Abstract: In the present paper, a two-layered blood flow model through a narrow vessel has been considered with a peripheral layer of Bingham fluid and the core region has of Casson type. The relative coefficients of viscosity for peripheral and core layer have been determined and their variations are shown graphically for different values of maximum hematocrit, shape parameter, etc.

Ryûki Matsuda

NOTE ON SPECTRAL SEMISTAR OPERATIONS

149-156

Abstract: In this paper we characterize integral domains and commutative semigroups on which every semistar operation is spectral. Precisely, we prove that for an integral domain D with finite dimension (resp., a g -monoid S) every semistar operation is spectral if and only if D (resp., S) is a discrete valuation domain (resp., discrete valuation semigroup).

Arif RafiqON THREE-STEP ITERATIVE PROCESS FOR ASYMPTOTICALLY
NONEXPANSIVE MAPPINGS

157-167

Abstract: In this paper, we modify the results of Xu and Noor [18] for solving the non-linear equation $Tx = x$ for asymptotically nonexpansive mappings in uniformly convex Banach spaces. It is worth to mention that, the same argument can be applied on the results of [1, 5-6, 16].

Gao Hongya and Han XiaopanEXTREMUM PRINCIPLE FOR VERY WEAK p -HARMONIC
FUNCTIONS

169-173

Abstract: This paper deals with very weak p -harmonic functions when p is close to two. The extremum principle is derived by using the stability result of Iwaniec-Hodge decomposition twice.

Arif Rafiq

FIXED POINT ITERATIONS OF TWO ASYMPTOTICALLY
PSEUDOCONTRACTIVE MAPPINGS

175-189

Abstract: In this paper, we establish the strong convergence for a modified two-step iterative scheme with errors associated with two mappings in real Banach spaces. Moreover, our technique of proofs is of independent interest. Remark at the end simplifies many known results.

Bijendra Singh, R. K. Sharma and Mohit Sharma

COMPATIBLE MAPS OF TYPE (P) AND COMMON FIXED POINTS
IN NON-ARCHIMEDEAN PM -SPACES

191-200

Abstract: The purpose of this paper is to introduce the concept of compatible maps of type (P) and prove some common fixed point theorems in non-Archimedean PM -spaces.

Dibyendu Banerjee and Srimanta Jana

ON FIX-POINTS OF GENERALIZED COMPOSITE TRANSCENDENTAL
ENTIRE FUNCTIONS

201-207

Abstract: The existence and distribution of the fix-points of entire functions are important in the study of the composition of these functions. In the present paper we introduce the idea of generalized composite entire functions and using this prove a fix-point theorem that includes a theorem of C. C. Yang.
