

**CONTENTS WITH ABSTRACT**

**A. Frazer Jarvis, Peter J. Larcombe and  
David R. French**

A SHORT PROOF OF THE 2-ADIC VALUATION OF THE  
CATALAN-LARCOMBE-FRENCH NUMBER 135-138

**Abstract:** We present a short proof of the 2-adic valuation of the general term of the Catalan-Larcombe-French sequence which, following its initial dissemination by Eugène Catalan in the late 19<sup>th</sup> century, has been recovered formally in two different ways in previous papers.

**Danyal Soybas and Ziya Argün**

ON THE RELATIONSHIP BETWEEN THE WEAK PHILLIPS  
PROPERTY AND ARENS REGULARITY 139-152

**Abstract:** We investigate the relationship between the Arens regularity of bilinear operators and the weak Phillips property. We show, as a result, the weak Phillips property implies Arens regularity for Banach algebras not containing a copy of  $l_1$ . Furthermore, we show the space  $K(X)$  of compact operators on a reflexive Banach space  $X$  with the approximation property has the weak Phillips property, although it fails to have the Grothendieck property. Therefore, under the same conditions, every bounded bilinear operator  $m : K(X) \times K(X) \rightarrow K(X)$  is Arens regular.

**Priti Gupta and Hari Arora**

GENERALISED PERFORMANCE FUNCTION FOR  $(r, s)$   
ENTROPY OF *DMC* UNDER SINGLE AND MULTIPLE  
CONSTRAINTS

153-165

**Abstract:** Channel capacity is a key concept in information theory and its usefulness has been widely discussed in the literature. It is an important measure of channel performance but it requires a free choice of the input distribution. Brijpaul and Sharma [3] gave a direct method of computing the performance function of a discrete memoryless communication channels. They obtained the performance function for discrete channels by using Shannon entropy which is additive in nature, but in some situations additivity does not hold good. In such situations, non-additivity prevails. In this paper, we are giving an algorithm for computing the performance function for generalized  $(r, s)$  entropy of discrete memoryless communication channel under single and multiple constraints in which entropy has been defined by Sharma and Mittal [8] which is non-additive in nature.

**P. Chandrakala and S. Antony Raj**

RADIATION EFFECTS ON *MHD* FLOW PAST AN  
IMPULSIVELY STARTED INFINITE VERTICAL PLATE  
WITH VARIABLE TEMPERATURE

167-175

**Abstract:** Thermal radiation effects on *MHD* flow past an impulsively started infinite vertical plate in the presence of variable temperature is considered. The temperature near the plate is made to rise linearly with time. The fluid considered is a gray, absorbing-emitting radiation but a non-scattering medium. The dimensionless governing equations are solved using the Laplace-transform technique. The velocity and temperature are studied

for different parameters like Magnetic field parameter, time and radiation parameter. It is observed that the velocity slightly decreases with increasing the value of the radiation parameter.

**Songxiao Li and Hasi Wulan**

BESOV SPACE ON THE UNIT BALL OF  $C^n$

177-186

**Abstract:** In this paper we obtain the higher dimensional version of the Stroethoff characterization of the Besov space on the unit ball of  $\mathbb{C}^n$ , as well as another new characterization.

**Binod Chandra Tripathy, Mikail Et,  
Yavuz Altin and Sabita Mahanta**

GENERALIZED DIFFERENCE PARANORMED SEQUENCE  
SPACES DEFINED BY ORLICZ FUNCTION IN A LOCALLY  
CONVEX SPACE

187-199

**Abstract:** In this article we introduce the generalized difference paranormed sequence spaces  $c(\Delta^n, M, p, q)$ ,  $c_0(\Delta^n, M, p, q)$  and  $\ell_\infty(\Delta^n, M, p, q)$  defined over a seminormed sequence spaces  $(X, q)$ . We study their different properties like completeness, solidity, symmetricity etc. We obtain some relations between these spaces as well as prove some inclusion results.

**P. N. Natarajan and S. Sakthivel**

WEIGHTED MEANS FOR DOUBLE SEQUENCES  
IN NON-ARCHIMEDEAN FIELDS

201-220

**Abstract:** In the present paper, we define weighted means for double sequences in complete, non-trivially valued, non-archimedean

fields and extend theorems of [5] for weighted means for double sequences.

**Habib M. Talukder, Santosh Kumar  
and Brian C. Jones**

INFORMATION RECYCLING MATHEMATICAL METHODS:  
ANALYSIS OF LINK WEIGHTED PROTEAN COMMUNICATION  
FLOW NETWORKS

221-238

**Abstract:** The flow of information in communication network may not be successful through some links due to technical faults or due to saturation of capacity, resulting in a state of no connectivity, which we define as a no communication state. This phenomenon of temporary non-availability or availability of a link changes the logical topology of the network. Such a network has been defined as a protean communication flow network. We intend to develop a mathematical model to find the flow capacity of such a communication network. There are two cases that could be considered. In one link changes their state but nodes are always in an operational state. In the other, nodes change their state but links are always in the operational state. In this investigation, we consider the case where link changes their state but nodes are always in the operational state. When a link fails, it is possible that it will fail to transmit flow. This also means that required flow may not reach the destination intended for the time period that the failed link remains un-repaired. We assume that the communication has the capacity to store information during this failure. We analyze and find the reliability of a two-state communication flow network in which the link is either in a communication state or in no communication network.

**Kouei Sekigawa and Akira Yamada**

A NOTE ON THE INTEGRABILITY OF A CLASS OF ALMOST  
QUATERNIONIC MANIFOLDS

239-248

**Abstract:** In the previous paper ([3]), we have stated two generalizations of the result by N. J. Hitchin ([2]). However, the second result (Theorem B) is not correct. In this note, we give a correction of the same result.

**J. P. King**

SUMMABILITY METHODS AND BURMANN SERIES  
EXPANSIONS

249-258

**Abstract:** Burmann series are used to generate matrix methods of summability. Conditions for regularity and for summability of the geometric series are presented. Examples are given.