CONTENTS

Abstract: We obtain sufficient conditions for certain weighted mean matrices to be equivalent to C, the Cesáro matrix of order 1, when considered as bounded operators on $l^p, 1 < p < \infty$.

Abstract: This paper is part of a program to study the conjecture of E. C. Dade on counting characters in blocks for several finite groups of Lie type. The local structures of radical 2-chains of a simple Ree group of type G_2 are given, and the conjecture has been verified for the group when the characteristic of the modular representation is distinct from 3.

Abstract: Similarity solution of two dimensional velocity boundary layer equations governing the flow of power law fluid along the wall of convergent channel is obtained. The resulting non-linear boundary value problem is solved numerically on computer using Lagrange interpolation formula and Runge-Kutta-Gill scheme. To facilitate the numerical solution, an approximate solution of the problem by Karman-Pohlhausen method, taking a fifth degree velocity profile is also obtained. For $n = 1$, the results obtained by numerical solution agrees, to a very good degree of accuracy, with corresponding results for Newtonian fluid. For various values of n, the boundary layer parameters have been tabulated and velocity profiles are drawn and discussed in detail.

Abstract: We show that every convergence group of the 2-Sphere containing a normal subgroup isomorphic to the circle group is the topological conjugate of a Möbius group.

Abstract: The object of the present paper is to derive some results of a generali-

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zed conharmonically recurrent Riemannian manifolds.

Ze Qing Liu
CHARACTERIZATIONS OF METRIC COMPLETENESS

Abstract: In this paper we obtain two necessary and sufficient conditions for a metric space to be complete.

E. Thandapani and P. Sundaram
OSCILLATION PROPERTIES OF FIRST ORDER NONLINEAR FUNCTIONAL
DIFFERENCE EQUATIONS OF NEUTRAL TYPE

Abstract: We study the oscillatory and nonoscillatory behavior of solutions of neutral functional difference equations of the form

$$\Delta[y(n) + p(n)y(\sigma(n))] \pm f(n, y(g_1(n))) \cdots y(g_m(n)) = 0 \qquad (^*)$$

assuming in particular that $p(n) > 0$, $\lim_{n\to\infty} \sigma(n) = \infty$,

$$\lim_{n\to\infty} g_i(n) = \infty, 1 \le i \le m \quad \text{and} \quad u_1 f(n, u_1, \ldots u_m) \ge 0 \quad \text{for} \quad u_1 u_i > 0,$$

$1 \le i \le m$. First we obtain sufficient conditions under which all solutions of $(^*)$ are oscillatory and then derive criteria for $(^*)$ to have bounded nonoscillatory solutions. The principal feature of this paper is that the following four cases for $\{p(n)\}$ and $\{\sigma(n)\}$ are examined : $\{p(n) < 1, \sigma(n) = n - k\}$, $\{p(n) < 1, \sigma(n) = n + k\}$, $\{p(n) > 1, \sigma(n) = n - k\}$, $\{p(n) > 1, \sigma(n) = n + k\}$ where k is a positive integer.

Aribindi Satyanarayan Rao
ON THE WEAKLY ALMOST PERIODIC SOLUTION OF A SECOND-ORDER
INFINITESIMAL GENERATOR DIFFERENTIAL EQUATION

Abstract: In a reflexive Banach space, the weakly almost periodic solution and its derivative of a certain second-order differential equation with a Stepanov almost periodic forcing function are shown to be almost periodic.

R. G. Buschman
CONTIGUOUS FUNCTION RELATIONS FOR q-HYPERGEOMETRIC FUNCTIONS

Abstract: Constant coefficient contiguous function relations are obtained for the q-hydrogeometric functions of N variables.

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