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CONTENTS

Abstract: Using the fixed point theorem and the methods of the microlocal analysis, we prove a result of Gevrey solvability for a second order semilinear partial differential equation with double characteristics. As introduction, we give a quick survey on the problem of the local solvability for linear and nonlinear equations.

Abstract: we introduce the concept of weak separatedness for nearness spaces, a property which is strictly weaker than separatedness, but which behaves similarly. Weak separatedness is bireflective in $NEAR$ and is preserved by both strict and simple completions; for weakly separated T_1 nearness spaces, the simple completion is an epireflection.

Abstract: ???

Abstract: We show that a perfect preimage having a G_δ-diagonal of a regular quasi-metrizable space need not be quasi-metrizable.

Abstract: As a limiting case of ramanujan's ${}_1\psi_1$ summation we obtain a generalization of jacobi's expansion for $(q)_\infty^3$.

Abstract: We prove fixed point theorems for pairs of fuzzy mappings satisfying contractive-type conditions and a rational inequality, respectively, in left $\boldsymbol{K}$-sequentially complete quasi-pseudo-metric spaces.

Abstract: In this paper ,we study the random effect model of the two-way experiments without interaction with one obsrevation per cell nonparametrically. We derive the locally most powerful rank test(LMP rank test) for the random effects.We also specialize the test statistic and obtain $\boldsymbol{\Psi}_L$ when erorrs conferm to a logostic distribution.The $\boldsymbol{\Psi}_L$ and friedman statistics for testing no fixed treatment effects in two-way lay -out based on rank are linearly related.The test staistics $\boldsymbol{\Psi}_L$ is discussed further by finding the asymptotic distribution of the related test under the null hypothesis and compairing with other staistics (Andorson and Fisher) for testing the hypothesis of no random treatment effects in term of their power when data cme from normal populations.

Abstract: We obtain very general brikhoff-kellogg type theorem on eigenvectors of broad classes of compact multimaps which appear in nonlinear analysis and algebraic topology. Then are applied to fixed point and best approximation problems on such classes of multimaps

defined on spheres of normed vector spaces.

J. Pecaric, G. Allasia and C. Giordano

Abstract: Convexity and n-convexity properties of some functions related to the logarithem of the gamma function are proved and pertinent inequalities obtained. These results are then applied to generalize well-known inequalities.

E. Thandapani and M. Maria Susai Manuel

Abstract: The auther consider the difference equation

$$\Delta(a_n \Delta x_n) + q_n f(x_n + 1) = 0, n = 0, 1, 2, \ldots . \qquad (^*)$$

where $a_n > 0, q_n > 0$ for all $n \geq 0$ and $f : \boldsymbol{R} \longrightarrow \boldsymbol{R}$ is continuous such that $uf(u) > 0$ for $u \neq 0$. Dividing the solutions of $(^*)$ into several classes, the authers obtain conditions for the existance and non-existance of solutions in these classes.

K. R. Nagarajan and T. Soundararajan

Abstract: Let $A^1(M)$ be the module over $C^\infty(M)$ of all smooth 1- forms on a differentiable mainfold M.Then the following condition are equivalent : (1)$A^1(M)$ is countably generated (2)$A^1(M)$ is finitely generated (3)M is paracompact. It is also prove that M will be parallelizable if and only if $A^1(M)$ is a free module.

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