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G. S. Srivastava and Mushtaq Shaker

ON THE APPROXIMATION OF ANALYTIC FUNCTIONS OF TWO COMPLEX
VARIABLES BY EXPONENTIAL POLYNOMIALS 1-13

Abstract: Let $f(s_1, s_2) = \sum_{m,n=0}^{\infty} a_{mn} \exp(s_1 \lambda_m + s_2 \mu_n)$, $s_w = \sigma_w + it_w$, $w = 1, 2$ be analytic in the hyperplane $\text{Re } s_1 < \alpha_1 < \infty$, $\text{Re } s_2 < \alpha_2 < \infty$, $(-\infty < \alpha_1, \alpha_2 < \infty)$, and \prod_{mn} be the class of all exponential polynomials of degree mn at most. In this paper, the growth parameters of f have been characterized in terms of the error in approximating f by exponential polynomials.

Ruyun MA*

MULTIPLICITY RESULTS FOR AN m -POINT BOUNDARY VALUE PROBLEM AT
RESONANCE 15-31

Abstract: This paper deals with second order m -point value problem

$$u''(t) = f(t, u(t)), t \in (0, 1)$$
$$u'(0) = 0, u(1) = \sum_{i=1}^{m-1} a_i u(\xi_i),$$

where $f : [0, 1] \times \mathbf{R} \rightarrow \mathbf{R}$ is continuous, a_i and $\xi_i \in [0, \infty)$ are given constants such that $\sum_{i=1}^{m-1} a_i = 1$, and $0 = \xi_1 < \xi_2 < \dots < \xi_{m-1} < \xi_m = 1$. we develop the methods of lower and upper solutions by the existence of connected sets of solutions to parameterized families of equations. as applications of these methods, we get several multiplicity results for the problems under consideration.

Pon. Sundar and John. R. Graef

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Abstract: In this present paper we consider the nonlinear neutral difference equation

$$\Delta^m [y(n) - p(n)y(n-k)] + q(n) \prod_{i=1}^l |y(n - \sigma_i)|^{\alpha_i} \operatorname{sgn} y(n - \sigma_i) = 0,$$

where $m \geq 1$ is odd, $k > 0$ and $\sigma_1 \geq 0$ are integers, $p(n) \geq 0$, $q(n) \geq 0$, $\alpha_i > 0$, for $i = 1, 2, \dots, l$ and $\sum_{i=1}^l \alpha_i = 1$. A comparison theorem is proved and as a consequence, some new oscillation criteria for (e) are derived.

S.L. Singh*, Ashish Kumar and Amal M. Hashim

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Abstract: In metric fixed-point theory, fixed-point theorems for contractive maps require the continuity of maps and compactness of the space. the purpose of this paper is to obtain fixed-point theorems for maps satisfying contractive type maps on (not necessarily complete) metric spaces, wherein, besides other relaxations, the continuity of maps is replaced by reciprocal continuity. A pair of reciprocally continuous maps may be discontinuous on a metric space. the remarkable aspect of such fixed-point theorems is that the maps may be discontinuous at their common fixed point.

Daniela Calvo

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by means of the Fourier transform and are based on a given weight function. the well posedness is proved for a class of weakly hyperbolic operators with constant coefficients, characterized by some weighted Levi-type conditions on the lower order terms.

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K. D. Magill, Jr.

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Abstract: In this paper, we determine, up to isomorphism, all those nonassociative euclidean nearrings \mathcal{N}^n with additive group \mathbf{R}^n , the n -dimensional euclidean group where \mathcal{N}^n contains n linearly independent elements, some of which are left identities, and the remainder of which are left annihilators. We show that, in fact, these are all associative rings. We go on to determine the ideals and quotient rings of these rings and we investigate the multiplicative semigroups of these rings.

Nayandeep Deka Baruah and Jonali Bora

NEW PROOFS OF RAMANUJAN'S MODULAR EQUATIONS OF DEGREE 9
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Abstract: In this paper, we find new proofs of some of Ramanujan's modular equations of composite degree 9 by using his theta-function identities.
