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Contents and abstracts

Seria MATEMATICĂ - FIZICĂ
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Mathematics

UNIVERSAL MATRIX RING

Sorin LUGOJAN

Abstract. The note studies addition and multiplication among matrices of all possible sizes. The result is the universal matrix ring. Extendable properties of that ring are indicated.1

Keywords and phrases: direct limit, direct system, pseudo-inverse, universal matrix ring

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NEW CONTRIBUTIONS IN A PROBLEM OF GEOMETRIC QUANTIZATION

Ciprian HEDREA

Abstract. Based on the study of the Manev's system, for which it is known that its geometric pre-quantization and Marsden- Weinstein switch, we propose to obtain the symplectic reduction switch with the horizontal polarization via the ½ correction forms. The proof follows a similar way as the Kostant's geometric quantization.

Keywords and phrases: 1/2 correction forms; symplectic reduction; geometric quantization; horizontal polarization; Hilbert space

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SOME INEQUALITIES FOR ISOTONIC LINEAR FUNCTIONALS

Loredana CIURDARIU

Abstract. In this paper is given a new variant of Minkowski-type inequality for isotonic linear functionals and then some variants of Qi's inequality for isotonic linear functionals using a new Young-type inequality. Also several applications are presented.

Keywords and phrases: Young's inequality, Minkowski's inequality, Qi's inequality.

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ABOUT *K*-SEMISPRAYS AND NONLINEAR CONNECTIONS IN *K*-TANGENT BUNDLE GEOMETRY

Florian MUNTEANU

Abstract. In this paper it is studying the relationship between *k*-semisprays and nonlinear connections on the *k*-tangent bundle T^kM. More exactly, we present a method by which is obtained a sequence of *k*-semisprays and two sequences of nonlinear connections, starting from a given one.

Keywords and phrases: *k*-tangent bundle, *k*-semispray, nonlinear connection.

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ON INTERPOLATION OF LOCALY CONVEX COUPLES WITH REAL METHODS

Nicolae COFAN, Ciprian HEDREA, Dan LUPULESCU, Ilie STAN

Abstract. We consider a general form of Peetre's *K* - and *J* - methods of interpolation for locally convex couples.

Keywords and phrases: interpolation methods, locally convex couple, interpolation operator, Haussdorff locally convex space.

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APPROXIMATE ANALYTIC SOLUTIONS FOR STAGNATION-POINT FLOW OF A VISCOUS FLUID OVER A NON-LINEARLY STRETCHING SURFACE

Bogdan CĂRUNTU , Remus-Daniel ENE

Abstract. A recently modified version of the Optimal Homotopy Asymptotic Method is employed to compute for the first time approximate analytic solutions for the stagnation-point flow of a viscous fluid over a non-linearly stretching surface. The comparison with corresponding numerical solutions shows that our approximate analytic solutions are very accurate

Keywords and phrases: optimal homotopy asymptotic method (OHAM), stagnation-point flow, non-Newtonian fluid

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A GENERALIZATION OF A DATKO-TYPE THEOREM FOR THE STABILITY AND THE INSTABILITY OF LINEAR SKEW-PRODUCT SEMIFLOWS

Sebastian RĂMNEANȚU

Abstract. The present paper gives a generalization of a result due to R. Datko for the stability and the instability of a linear skew-product semiflow in the direction of [2], [3], [12], [13], [14].

Keywords and phrases: linear skew-product semiflow, uniform exponential stability, uniform exponential instability

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