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Alexander Abian and Esfandiar Eslami

COMPACTNESS OF THE PRODUCT OF TWO COMPACT SPACES WITHOUT
THE AXIOM OF CHOICE

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Sever Silvestru Dragomir

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C. Gnanaseelan and P. D. Srivastava

THE $\alpha-$, $\beta-$, $\gamma-$ DUALS OF SOME GENERALISED DIFFERENCE SEQUENCE
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Abstract: In this paper we have computed the $\alpha-$, $\beta-$ and $\gamma-$ duals for a newly introduced class $F(\Delta_v) = \{x = (x_k) : (v_k(x_k - x_{k+1})) \in F\}$, where F be l_∞ , c or c_0 , and $v = (v_k)$ be a sequence of nonzero complex numbers satisfying certain conditions, Necessary and sufficient conditions for a matrix A to map $l_\infty(\Delta_v)$ or $c(\Delta_v)$ into l_∞ or c are also obtained. The results of this paper generalise the corresponding results of Kizmaz [1], Ali Sarigol [2] and others.

P. Jeganathan

TAUBERIAN PROPERTY FOR LINEAR RELATIONS

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Abstract: A fundamental theorem for Tauberian operators states that an operator $T : \mathcal{D}(T) \subset X \rightarrow Y$ is Tauberian if and only if for every bounded set $B \subset \mathcal{D}(T)$; if TB is relatively $\sigma(Y, \mathcal{D}(T'))$ compact then B is relatively $\sigma(\mathcal{D}(T), \mathcal{D}(T)')$ compact (see for example [3, 2.4]). This paper extends this result to linear relations.

S. N. Mishra, S. L. Singh and V. Chadha

COINCIDENCES AND FIXED POINTS IN FUZZY METRIC SPACES

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Abstract: Following Grabiec's approach to Banach type fixed point theorems in fuzzy metric spaces, this paper obtains some new coincidence theorems for a family of mappings on an arbitrary set with values in a fuzzy metric space, and derives a few general fixed point theorems for a family of mappings on a fuzzy metric space. These fixed point theorems are applied to obtain common solutions of fixed point type equations on product spaces.

Jean-Claude Ndogmo

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Ismat Beg and Akbar Azam

CONSTRUCTION OF MIXED POINTS FOR GENERALIZED NONEXPANSIVE
MAPPINGS

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Abstract: Some theorems concerning the construction of mixed points for generalized nonexpansive mappings on convex metric spaces are proved. Furthermore, convergence of sequence of iterates of compact operator in Banach spaces is also obtained. Our results generalize those of Kannan, Kirk, Ray and Rhoades and others.

Ruggero Maria Santilli

ISOTOPIES OF LOCAL-DIFFERENTIAL GEOMETRIES

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Abstract: In the first paper of this series we have introduced the isotopies of the differential calculus and of Newton's equations of motion. In the second paper we used these results to construct the isotopies of classical and quantum mechanics. In this third paper we apply the preceding results for the construction of the isotopies of the symplectic and Riemannian geometries. The primary motivation is that, in their conventional formulation, these geometries are local-differential. As such, they are only valid for the exterior dynamical problem of point-like test bodies moving in the homogeneous and isotropic vacuum. The isotopies of the symplectic and Riemannian geometries result instead to be valid for the interior dynamical problem of extended and deformable test bodies moving within inhomogeneous and anisotropic physical media with conventional local-differential and variationally self-adjoint as well as nonlocal-integral and variationally nonselfadjoint resistive forces. In this paper we show that the isotopic geometries preserve all original axioms to such an extent that they coincide at the abstract level with the conventional geometries.

P. R. Sharma, M. Gaur and Y. N. Gaur

LAMINAR FLOW THROUGH DUCTS FILLED WITH POROUS MATERIAL

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Abstract: Unsteady laminar flow of a non-Darcian, isotropic, incompressible fluid through a duct filled with porous material is investigated, taking three different types of ducts viz. circular, elliptical and triangular cross-sections. The aim of the present investigation is that the drag on the walls of the duct is developed directly from the flux without solving the velocity fields. The expressions of velocity field, flux and drag per unit length are derived.
