Abstract no. : GET16

VARIATIONS ON GENERALIZED SELECTIVE SEPARABILITY AND ITS VARIATIONS

M.R. Ahmadi Zand,** F. Mohammady Nasiry
Yazd University, Iran
*** mahmadi@yazd.ac.ir , ** fmn.hmn18@yahoo.com***

A space X is selectively separable if for every sequence (D_n: n ∈ ω) of dense subspaces of X one can pick finite $F_n \subset D_n$: so that $\cup\{F_n : n \in \omega\}$ is dense in X. In this paper we impose variation on selective separability definition, which by this variations, the following new concepts will be introduced and studied: strong selective separability, G_δ- separability, F_σ - separability.

Abstract no. : GET17

gδs-CONTINUOUS FUNCTIONS IN TOPOLOGICAL SPACES

G. P. Siddapur
P. G. Department of Studies in Mathematics S.K. Arts College, H.S.K Science Institute Vidyanagar, Karnataka, India
siddapur.math@gmail.com

In this paper, gδs-continuous functions, semi-gδs-continuous functions, gδs-irresolute functions in topological spaces are introduced. Various properties and characterizations of such functions are discussed by using gδs-closure and gδs-interior under certain conditions and also study the relation between the newly defined concepts with already existing once.

Abstract No. : GET18

CONVERGENCE METHODS IN TOPOLOGY

Szymon Dolecki
Mathematical Institute of Burgundy, Dijon, France
dolecki@u-bourgogne.fr

A convergence τ is a *topology* whenever $T\tau \geq \tau$, where T stands for the topologizer, a concrete reflector in the category of convergences with continuous maps as morphisms.

Several other (concrete) reflective subcategories are characterized analogously, for example, pretopologies (S_0), paratopologies (S_1), pseudotopologies (S), while (concrete)

coreflective subcategories are characterized by inequalities of another type, for example, a convergence ξ is of *countable character* if $\xi \geq I_1\xi$, where I_1 is a certain concrete coreflector. Moreover, many fundamental subclasses of topologies admit characterizations in terms of *functorial inequalities* of the type

(1) $$\tau \geq JE\tau,$$

where J is a reflector and E is a coreflector. For instance, *sequential* topologies τ ($\tau \geq TI_1\tau$), *Fr´echet* topologies τ ($\tau \geq S_0I_1\tau$), *strongly Fr´echet* topologies τ ($\tau \geq S_1I_1\tau$), *bisequential* topologies τ ($\tau \geq SI_1\tau$).Continuity can be characterized in terms of final and initial convergences (a map $f : |\xi| \to |\tau|$ is continuous if and only if $f\xi \geq \tau$, equivalently, $\xi \geq f^{-}\tau$). Classical variants of *quotient maps* are characterized by *functorial inequalities* of the type

(2) $$\tau \geq J(f\xi),$$

where J is a reflector, for instance, T for *(topological) quotient maps,* S_0 for *hereditarily quotient maps,* S_1 for *countably biquotient maps,* S for *biquotient maps.* These characterizations enables us to easily infer about preservation of properties of the type (1) by maps of the type (2).Variants of *compactness* can be characterized in terms of subcategories of convergences; various types of *perfect maps* they can be described as inversely preserving of certain types of compactness. Finally, functorial inequalities applied to products of spaces and of functions, enable us to study various productivity quests.

I will illustrate these techniques on an example of a recent characterization of *productively sequential* topologies.