VINICIUS RODRIGUES, York University

Special sets of reals and weakenings of normality in Isbell-Mrówka spaces

The problem of the existence of a non-metrizable separable normal Moore space is a classical problem related to uncountable normal Isbell-Mrówka spaces and with the class of Q-sets - which are special subsets of the reals: the existence of these objects are independent of ZFC and equivalent. Using the same techniques as the ones needed to prove this equivalence, analogous relations between uncountable pseudonormal Isbell-Mrówka spaces and λ-sets were established.

Taking as a motivation, we will discuss the relations between some weakenings of normality in Isbell-Mrórka spaces (as almost-normality and strong $\aleph_0$-separatedness) and other special subsets of the reals (such as σ-sets and a new class of subsets of the reals we are proposing, which we called weak λ-set). In particular, we prove that a branching almost disjoint family generated by a set of reals is almost-normal (strong $\aleph_0$-separated) if, and only if the set of reals is a σ-set (weak λ-set). This is a joint work with V. S. Ronchim and P. Szeptycki.