JOINT CONTINUITY VERSUS SEPARATE CONTINUITY: ON A CLASS OF NAMIOKA SPACES

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The problem of studying sets of points of joint continuity for a separately continuous mapping provoked interest of many mathematicians. Probably, the first one to be mentioned here is R. Baires (1899) work. In more recent times important progress in studying this problem was done by Namioka (1974) who found some conditions on spaces X allowing to conclude that if $f : X \times Y \to M$ is separately continuous where M is a metric space and X is compact, then there exists a dense G_δ subset A of X such that $f : A \times Y \to M$ is jointly continuous at each point of $A \times Y$. Following J.P.R. Christensen (1981) a space X is called Namioka if the above property holds for any metric space M and any compact space Y. The problem of extending known classes of Namioka spaces was studied by many authors. In particular, J. Saint Raymond (1983) proved that every separable Baire space is Namioka. In the same work he applieD a topological game for the study of Namioka spaces.

In our talk we propose an alternative topological game and use it to characterize a class of Namioka spaces.

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