Valentin Gutev
Selections and approaching points in products

Abstract: The present paper aims to furnish simple proofs of some recent results about selections on product spaces obtained by García-Ferreira, Miyazaki and Nogura. The topic is discussed in the framework of a result of Katětov about complete normality of products. Also, some applications for products with a countably compact factor are demonstrated as well.

References

[1] Artico G., Marconi U., Pelant J., Rotter L., Tkachenko M., *Selections and suborderability*, Fund. Math. **175** (2002), 1–33.

[2] Buhagiar D., Gutev V., *Selections and countable compactness*, Math. Slovaca **63** (2013), no. 5, 1123–1140.

[3] Fujii S., Miyazaki K., Nogura T., *Vietoris continuous selections on scattered spaces*, J. Math. Soc. Japan **54** (2002), no. 2, 273–281.

[4] García-Ferreira S., Gutev V., Nogura T., Sanchis M., Tomita A., *Extreme selections for hyperspaces of topological spaces*, Topology Appl. **122** (2002), 157–181.

[5] García-Ferreira S., Miyazaki K., Nogura T., *Continuous weak selections for products*, Topology Appl. **160** (2013), no. 18, 2465–2472.

[6] García-Ferreira S., Miyazaki K., Nogura T., *Continuous weak selections and orderability of countable products*, preprint, 2013.

[7] García-Ferreira S., Sanchis M., *Weak selections and pseudocompactness*, Proc. Amer. Math. Soc. **132** (2004), 1823–1825.

[8] Glicksberg I., *Stone-Čech compactifications of products*, Trans. Amer. Math. Soc. **90** (1959), 369–382.

[9] Gutev V., *Selections and hyperspaces*, Recent progress in general topology, III (K.P. Hart, J. van Mill, and P. Simon, eds.), Atlantis Press, Springer, 2014, pp. 535–579.

[10] Gutev V., Nogura T., *Selections and order-like relations*, Appl. Gen. Topol. **2** (2001), 205–218.

[11] Gutev V., Nogura T., *Selection pointwise-maximal spaces*, Topology Appl. **146–147** (2005), 397–408.

[12] Hewitt E., *Rings of real-valued continuous functions. I*, Trans. Amer. Math. Soc. **64** (1948), 45–99.

[13] Katětov M., *Complete normality of Cartesian products*, Fund. Math. **35** (1948), 271–274.

[14] Michael E.A., *Topologies on spaces of subsets*, Trans. Amer. Math. Soc. **71** (1951), 152–182.

[15] van Mill J., Wattel E., *Selections and orderability*, Proc. Amer. Math. Soc. **83** (1981), no. 3, 601–605.

[16] Miyazaki K., *Continuous selections on almost compact spaces*, Sci. Math. Jpn. **53** (2001), 489–494.

[17] Treybig L.B., *Concerning continuous images of compact ordered spaces*, Proc. Amer. Math. Soc. **15** (1964), 866–871.

[18] van Douwen E.K., *Mappings from hyperspaces and convergent sequences*, Topology Appl. **34** (1990), 35–45.