

DOI: 10.21538/0134-4889-2016-22-3-212-225

MSC: 54A10, 54A20

**OPEN ULTRAFILTERS AND SEPARABILITY WITH THE USE
OF THE OPERATION OF CLOSURE**

Received January 14, 2016

E. G. Pytkeev, A. G. Chentsov

We study ultrafilters of topologies as well as sets of ultrafilters that each time dominate the open neighborhood filter of some fixed point in a topological space. The sets of ultrafilters are considered as “enlarged points” of the original space. We study conditions that provide the discernibility of (enlarged) “points” of this type. We use nontraditional separability axioms and study their connection with the known axioms T_o , T_1 , and T_2 .

Keywords: closure, neighborhood, ultrafilter.

E. G. Pytkeev, Dr. Phys.-Math. Sci., Krasovskii Institute of Mathematics and Mechanics, Ural Branch of the Russian Academy of Sciences, Yekaterinburg, 620990 Russi, 129226 Russia, e-mail: pyt@imm.uran.ru .

A. G. Chentsov, Dr. Phys.-Math. Sci., Krasovskii Institute of Mathematics and Mechanics, Ural Branch of the Russian Academy of Sciences, Yekaterinburg, 620990 Russia; Ural Federal University, Yekaterinburg, 620002 Russia, e-mail: chentsov@imm.uran.ru .

Cite this article as:

E. G. Pytkeev, A. G. Chentsov, Open ultrafilters and separability with the use of the operation of closure, *Trudy Inst. Mat. Mekh. UrO RAN*, 2016, vol. 22, no. 3, pp. 212–225 .