

ON PARATOPOLOGIZED GROUPS

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ABSTRACT. Continuing the study of paratopological groups, our focus in this paper is to define and study four more classes, similar to paratopological groups, called here s -(S -, irrsolute-, Irr-) paratopological groups. Several properties of such paratopologized groups are presented. Counterexamples are given to show that such paratopologized groups are generalized forms of the corresponding topologized groups.

REFERENCES

- [1] D.R. Anderson, J.A. Jensen, *Semi-continuity on topological spaces*, Atti Accad. Naz. Lincei, Rend. Cl. Sci. Fis. Mat. Nat., 42(1967), 782-783.
- [2] N. Biswas, *On some mappings on topological spaces*, Bull. Calcutta Math. Soc., 61(1969), 127-135
- [3] E. Bohn, J. Lee, *Semi-topological groups*, Amer. Math. Monthly, 72(1965), 996-998.
- [4] D.E. Cameron, G. Woods, *s-continuous and s-open mappings*, (pre-print).
- [5] D.A. Carnahan, *Some properties related to compactness in topological spaces*, Ph. D. Thesis Univ. of Arkansas, 1973.
- [6] S.G. Crossley, S.K. Hildebrand, *Semi-closure*, Texas J. Sci., 22(1971), 99-112.
- [7] S.G. Crossley, S.K. Hildebrand, *Semi-closed sets and semi-continuity in topological spaces*, Texas J. Sci., 22(1971), 123-126.
- [8] S.G. Crossley, S.K. Hildebrand, *Semi-topological properties*, Fund. Math., 74(1972), 233-254.
- [9] M.C Cueva, J. Dontchev, *On spaces with hereditarily compact α -topologies*, Acta Math. Hungar. 82(1-2)(1999), 121-129.
- [10] R. Engelking, *General Topology*, 2nd edition, Heldermann-Verlag, Berlin, 1989.
- [11] M.K. Gupta and T. Noiri, *C-compactness modulo an ideal*, Int. J. Math. Sci., (2006), 1-12.
- [12] S. Kempisty, *Sur les fonctions quasicontinues*, Fund. Math., 19(1932), 184-197.
- [13] N. Levine, *Semi-open sets and semi-continuity in topological spaces*, Amer. Math. Monthly, 70(1963), 36-41.
- [14] S. Marcus, *Sur les fonctions quasicontinues au sens de S. Kempisty*, Coll. Math., 8(1961), 47–53.
- [15] Moiz ud Din Khan, Samina Azam, *s- topological vector spaces*, J. Linear Topol. Algebra, 4(2) (2015), 153-158.
- [16] Moiz ud Din Khan, A. Siab, and Ljubiša D.R. Kočinac, *Irresolute-topological groups*, Math. Morav., 19(1)(2015), 73-80.
- [17] Moiz ud Din Khan and M. Siddique Bosan , *A note on s-topological groups*, Life Sci J; 11(7s), (2014), 370-374.
- [18] A. Neubrunnov´a, *On certain generalizations of the notion of continuity*, Mat. Časopis, 23(1973), 374-380.
- [19] T.M. Nour, *A note on some applications of semi-open sets*, Internat. J. Math. Sci., 21(1998), 205-207.
- [20] Z. Piotrowski, *On semi-homeomorphisms*, Boll. U.M.I.,(5)16-A(1979), 501–509.
- [21] M. Siddique Bosan, Moiz ud Din Khan, and Ljubiša D.R. Kočinac, *On s-topological groups*, Math. Morav.,18(2)(2014), 35-44.
- [22] M.S. Sarsak, *On semicompact sets and associated properties*, Int. J. Math. Math. Sci.2 0 0 9, Art. ID 465387.

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