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A note on spaces with countable extent

Comment.Math.Univ.Carolin. 58,3 (2017) 397–399.

Abstract: Let P be a topological property. A space X is said to be *star P* if whenever \mathcal{U} is an open cover of X , there exists a subspace $A \subseteq X$ with property P such that $X = St(A, \mathcal{U})$. In this note, we construct a Tychonoff pseudocompact SCE-space which is not star Lindelöf, which gives a negative answer to a question of Rojas-Sánchez and Tamariz-Mascarúa.

Keywords: star properties; star Lindelöf; space with star countable extent

AMS Subject Classification: Primary 54D20, 54C10, 54B10, 54B05

REFERENCES

- [1] Aiken L.P., *Star-covering properties: generalized Ψ -spaces, countability conditions, reflection*, Topology Appl. **158** (2011), 1732–1737.
- [2] Alas O.T., Junqueira L.R., Wilson R.G., *Countability and star covering properties*, Topology Appl. **158** (2011), 620–626.
- [3] Alas O.T., Junqueira L.R., van Mill J., Tkachuk V.V., Wilson R.G., *On the extent of star countable spaces*, Cent. Eur. J. Math. **9** (2011), no 3, 603–615.
- [4] van Douwen E.K., Reed G.M., Roscoe A.W., Tree I.J., *Star covering properties*, Topology Appl. **39** (1991), 71–103.
- [5] Engelking R., *General Topology*, revised and completed edition, Heldermann, Berlin, 1989.
- [6] Matveev M.V., *A survey on star-covering properties*, Topological Atlas preprint no. 330, 1998.
- [7] van Mill J., Tkachuk V.V., Wilson R.G., *Classes defined by stars and neighborhood assignments*, Topology Appl. **154** (2007), 2127–2134.
- [8] Noble N., *Countably compact and pseudocompact products*, Czechoslovak Math. J. **19(3)** (1969), 390–397.
- [9] Rojas-Sánchez A.D., Tamariz-Mascarúa Á., *Spaces with star countable extent*, Comment. Math. Univ. Carolin. **57** (2016), no 3, 381–395.