

M.Á. Gaspar-Arreola, F. Hernández-Hernández
The product of two ordinals is hereditarily dually discrete

Comment.Math.Univ.Carolin. 53,1 (2012) 99 –104.

Abstract: In *Dually discrete spaces*, Topology Appl. **155** (2008), 1420–1425, Alas *et. al.* proved that ordinals are hereditarily dually discrete and asked whether the product of two ordinals has the same property. In *Products of certain dually discrete spaces*, Topology Appl. **156** (2009), 2832–2837, Peng proved a number of partial results and left open the question of whether the product of two stationary subsets of ω_1 is dually discrete. We answer the first question affirmatively and as a consequence also give a positive answer to the second.

Keywords: dually discrete spaces, stationary subsets, ordinal spaces

AMS Subject Classification: 54D99, 54F05

REFERENCES

- [1] Alas O.T., Junqueira L.R., Wilson R.G., *Dually discrete spaces*, Topology Appl. **155** (2008), 1420–1425.
- [2] Buzyakova R.Z., Tkachuk V.V., Wilson R.G., *A quest for nice kernels of neighbourhood assignments*, Comment. Math. Univ. Carolin. **48** (2007), no. 4, 689–697.
- [3] van Douwen E.K., Pfeffer W.F., *Some properties of the Sorgenfrey line and related spaces*, Pacific J. Math. **81** (1979), no. 2, 371–377.
- [4] van Mill J., Tkachuk V.V., Wilson R.G., *Classes defined by stars and neighborhood assignments*, Topology Appl. **154** (2007), 2127–2134.
- [5] Peng L.X., *Dual properties of subspaces in product of ordinals*, Topology Appl. **157** (2010), 2297–2303.
- [6] Peng L.X., *Finite unions of weak $\bar{\theta}$ -refinable spaces and product of ordinals*, Topology Appl. **156** (2009), 1679–1683.
- [7] Peng L.X., *Products of certain dually discrete spaces*, Topology Appl. **156** (2009), 2832–2837.