

Mathieu Baillif

Three small results on normal first countable linearly H-closed spaces

Comment.Math.Univ.Carolin. 63,2 (2022) 221–228.

Abstract: We use topological consequences of PFA, $\text{MA}_{\omega_1}(\text{S})[\text{S}]$ and $\text{PFA}(\text{S})[\text{S}]$ proved by other authors to show that normal first countable linearly H-closed spaces with various additional properties are compact in these models.

Keywords: linearly H-closed space; normal space; first countable space; forcing axiom

AMS Subject Classification: 54D20

REFERENCES

- [1] Abraham U., Todorčević S., *Martin's axiom and first-countable S- and L-spaces*, Handbook of Set-theoretic Topology, North-Holland, Amsterdam, 1984, pages 327–346.
- [2] Alas O. T., Junqueira L. R., Wilson R. G., *On linearly H-closed spaces*, Topology Appl. **258** (2019), 161–171.
- [3] Baillif M., *Notes on linearly H-closed spaces and OD-selection principles*, Topology Proc. **54** (2019), 109–124.
- [4] Balogh Z., Dow A., Fremlin D. H., Nyikos P. J., *Countable tightness and proper forcing*, Bull. Amer. Math. Soc. (N.S.) **19** (1988), no. 1, 295–298.
- [5] Balogh Z., Gruenhage G., *Two more perfectly normal non-metrizable manifolds*, Topology Appl. **151** (2005), no. 1–3, 260–272.
- [6] Bella A., *Observations on some cardinality bounds*, Topology Appl. **228** (2017), 355–362.
- [7] Dow A., Tall F. D., *PFA(S)[S] and countably compact spaces*, available in ArXiv 1607.04368 [math.LO] (2016), 24 pages.
- [8] Eisworth T., Nyikos P., Shelah S., *Gently killing S-spaces*, Israel J. Math. **136** (2003), 189–220.
- [9] Larson P. B., Tall F. D., *Locally compact perfectly normal spaces may all be paracompact*, Fund. Math. **210** (2010), no. 3, 285–300.
- [10] Larson P., Tall F. D., *On the hereditary paracompactness of locally compact, hereditarily normal spaces*, Canad. Math. Bull. **57** (2014), no. 3, 579–584.
- [11] Nyikos P., *The theory of nonmetrizable manifolds*, Handbook of Set-theoretic Topology, North-Holland, Amsterdam, 1984, pages 633–684.
- [12] Nyikos P. J., *Applications of some strong set-theoretic axioms to locally compact T_5 and hereditarily scwH spaces*, Fund. Math. **176** (2003), no. 1, 25–45.
- [13] Porter J. R., Woods R. G., *Feebly compact spaces, Martin's axiom and "diamond"*, Proc. of the 1984 Topology Conf., Auburn, Ala., 1984, Topology Proc. **9** (1984), no. 1, 105–121.
- [14] Roitman J., *Basic S and L*, Handbook of Set-theoretic Topology, North-Holland, Amsterdam, 1984, pages 295–326.
- [15] Szentmiklóssy Z., *S-spaces and L-spaces under Martin's axiom*, Topology, Vol. II, Proc. Fourth Colloq., Budapest, 1978, Colloq. Math. Soc. János Bolyai, 23, North-Holland, Amsterdam, 1980, pages 1139–1145.
- [16] Tall F. D., *PFA(S)[S] and the Arhangel'skiĭ–Tall problem*, Topology Proc. **40** (2012), 99–108.
- [17] Tall F. D., *PFA(S)[S] for the masses*, Topology Appl. **232** (2017), 13–21.
- [18] Todorčević S., *Partition Problems in Topology*, Contemporary Mathematics, 84, American Mathematical Society, Providence, 1989.