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On powers of Lindelöf spaces

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Abstract: We present a forcing construction of a Hausdorff zero-dimensional Lindelöf space X whose square X^2 is again Lindelöf but its cube X^3 has a closed discrete subspace of size \mathfrak{c}^+ , hence the Lindelöf degree $L(X^3) = \mathfrak{c}^+$. In our model the Continuum Hypothesis holds true.

After that we give a description of a forcing notion to get a space X such that $L(X^n) = \aleph_0$ for all positive integers n , but $L(X^{\aleph_0}) = \mathfrak{c}^+ = \aleph_2$.

Keywords: forcing, topology, products, Lindelöf

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