

Infinite games and chain conditions

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We use games to prove results about cardinal invariants in topology. For example, the following theorem is related to an old problem of Arhangel'skii.

Theorem *Let X be a compact Hausdorff space such that player two has a winning strategy in the weak Rothberger game of length ω_1 . Then every cover by G_δ subsets of X has a continuum-sized subcollection with a G_δ -dense union.*

And the following may be considered as a partial positive ZFC answer to Suslin's Problem.

Theorem *Let X be a compact linearly ordered space such that player two has a winning strategy in the open-open game. Then X is separable.*

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