

Strengthening of de Groot's and Spadaro's inequalities for Urysohn spaces

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In 1965, de Groot proved that if X is a Hausdorff space, then $|X| \leq 2^{hL(X)}$, where $hL(X)$ is the hereditary Lindelöf degree. In 2011, Spadaro improved de Groot's inequality by showing that for every Hausdorff space X we have $|X| \leq 2^{L(X)F(X)\psi(X)}$, where $L(X)$ is the Lindelöf degree of X , $F(X)$ is the supremum of the cardinalities of the free sequences in X , and $\psi(X)$ is the pseudocharacter of X .

Recently Angelo Bella improved de Groot's and Spadaro's inequalities for the class of regular T_1 -spaces by showing that for such spaces X we have $|X| \leq hL(X)^{F(X)\psi(X)}$ and he asked if the same inequality is true for every Hausdorff space X .

In this talk we will mention several results strengthening de Groot's, Spadaro's, or Bella's inequalities, most of which for the class of Urysohn spaces.