1135-54-1543 **Fortunata Aurora Basile*** (basilef@unime.it), **Maddalena Bonanzinga** and **Nathan Carlson**. *New cardinality bounds for Urysohn spaces.*

Sapirovskii proved that $|X| \leq \pi\chi(X)^{c(X)\psi(X)}$, for a regular space X. We introduce the θ-*pseudocharacter* of a Urysohn space X, denoted by $\psi_\theta(X)$, and prove that if X is a Urysohn space then $|X| \leq \pi_\chi(X)^{Uc(X)\psi_\theta(X)}$. The Urysohn cellularity of a space X, defined by Schröder, satisfies $Uc(X) \leq c(X)$ and $\psi(X) \leq \psi_c(X) \leq \psi_\theta(X) \leq \chi(X)$. Note that if X is a regular space then $Uc(X) = c(X)$ and $\psi(X) = \psi_\theta(X)$.

We also introduce new cardinal invariants: θ-$aL(X)$, θ-$aL'(X)$ and $t_{\hat{c}}(X)$ in order to prove that if X is a Urysohn space then $|X| \leq 2^{\theta\text{-}aL'(X)t_{\hat{c}}(X)\psi_\theta(X)}$ $(*)$. As θ-$aL(X) \leq aL(X)$ and $t_{\hat{c}}(X)\psi_\theta(X) \leq \chi(X)$, this represents an improvement of the Bella-Cammaroto inequality $|X| \leq 2^{aL(X)\chi(X)}$. The invariant θ-$aL'(X)$ is constructed by using maximal filters on the family of finite intersections of regular closed sets. Finally, we introduce a new class of topological spaces called *weakly H-closed*, a property related to H-closedness. It follows from $(*)$ that if X is a Urysohn, weakly H-closed space then $|X| \leq 2^{\chi(X)}$. (Received September 23, 2017)