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A semifilter approach to selection principles II: τ^*-covers

Comment.Math.Univ.Carolin. 47,3 (2006) 539-547.

Abstract: Developing the idea of assigning to a large cover of a topological space a corresponding semifilter, we show that every Menger topological space has the property $\bigcup_{\rm fin}(\mathcal{O},{\rm T}^*)$ provided $(\mathfrak{u}<\mathfrak{g})$, and every space with the property $\bigcup_{\rm fin}(\mathcal{O},{\rm T}^*)$ is Hurewicz provided $({\rm Depth}^+([\omega]^{\aleph_0})\leq\mathfrak{b})$. Combining this with the results proven in cited literature, we settle all questions whether (it is consistent that) the properties $\mathtt{P}$ and $\mathtt{Q}$ [do not] coincide, where $\mathtt{P}$ and $\mathtt{Q}$ run over $\bigcup_{\rm fin}(\mathcal{O},\Gamma)$, $\bigcup_{\rm fin}(\mathcal{O},{\rm T})$, $\bigcup_{\rm fin}(\mathcal{O},{\rm T}^*)$, $\bigcup_{\rm fin}(\mathcal{O},\Omega)$, and $\bigcup_{\rm fin}(\mathcal{O},\mathcal{O})$.

Keywords: selection principle, semifilter, small cardinals
AMS Subject Classification: 03A, 03E17, 03E35