

1068-54-114

Francis Jordan and **Frederic Mynard*** (fmynard@georgiasouthern.edu), Mathematical Sciences, POBox 8093, Statesboro, GA 30460. *Core compactness and diagonality in spaces of open sets.*

We investigate when the space \mathcal{O}_X of open subsets of a topological space X endowed with the Scott topology is core compact. Such conditions turn out to be related to infraconsonance of X , which in turn is characterized in terms of coincidence of the Scott topology of $\mathcal{O}_X \times \mathcal{O}_X$ with the product of the Scott topologies of \mathcal{O}_X at (X, X) . On the other hand, we characterize diagonality of \mathcal{O}_X endowed with the Scott convergence and show that this space can be diagonal without being pretopological. New examples are provided to clarify the relationship between pretopologicity, topologicity and diagonality of this important convergence space. (Received January 15, 2011)