Hyperspaces of Erdős space

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Erdős space $\mathfrak{E}$ and complete Erdős space $\mathfrak{E}_c$ are two classical examples in dimension theory that have appeared in other contexts. For example, the set of endpoints of the Lelek fan is homeomorphic to $\mathfrak{E}_c$ (Kawamura, Oversteegen and Tymchatyn, 1996), and the set of self-homeomorphisms of the plane that fix a given countable dense set is homeomorphic to $\mathfrak{E}$ (Dijkstra and van Mill, 2010).

My Ph.D. student Alfredo Zaragoza started the study of the Vietoris hyperspaces of $\mathfrak{E}$ and $\mathfrak{E}_c$. Jointly with Alfredo, we found topological characterizations of the space $\mathfrak{E}_c \times \mathbb{Q}$, where $\mathbb{Q}$ is the space of rational numbers. Using these characterizations we were able to prove that the Vietoris hyperspace of finite sets of $\mathfrak{E}_c$ is homeomorphic to $\mathfrak{E}_c \times \mathbb{Q}$.

In this talk I will introduce these Erdős spaces, present our results and talk about some problems that are still open.