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The Rothberger property on $C_p(\Psi(\mathcal{A}), 2)$

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Abstract: A space X is said to have the *Rothberger property* (or simply X is *Rothberger*) if for every sequence $\langle \mathcal{U}_n : n \in \omega \rangle$ of open covers of X, there exists $U_n \in \mathcal{U}_n$ for each $n \in \omega$ such that $X = \bigcup_{n\in\omega} U_n$. For any $n \in \omega$, necessary and sufficient conditions are obtained for $C_p(\Psi(\mathcal{A}), 2)^n$ to have the Rothberger property when $\mathcal{A}$ is a Mrówka mad family and, assuming CH (the Continuum Hypothesis), we prove the existence of a maximal almost disjoint family $\mathcal{A}$ for which the space $C_p(\Psi(\mathcal{A}), 2)^n$ is Rothberger for all $n \in \omega$.

Keywords: function spaces; $C_p(X, Y)$; Rothberger spaces; Ψ-space
AMS Subject Classification: Primary 54C35, 54D35, 03G10; Secondary 54D45, 54C45

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