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Preservation of generalized continuity. (English) Zbl 0723.54011

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Various types of convergence of sequences of p -quasi-continuous and p -nearly continuous functions between preproximity spaces are investigated. A basic preproximity on a set X is a symmetric binary relation δ on $\mathcal{P}(X)$ extending the incidence relation and such that δ -near sets are nonempty, $A\delta B$, $B \subset C$ implies $A\delta C$. Three modifications of a preproximity are also considered. Except of the relationships between preproximities and a pretopology (which is any family of subsets of X containing \emptyset , X and closed under arbitrary unions) the authors compare types of a convergence and treat the preservation of mentioned continuity types with respect to considered convergences. Some examples for topological spaces, especially for subspaces of \mathbb{R} are also included.

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MSC:

- 54C08 Weak and generalized continuity
- 54C35 Function spaces in general topology
- 54E05 Proximity structures and generalizations
- 54E15 Uniform structures and generalizations
- 54C05 Continuous maps

Cited in 1 Document

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uniform convergence; Arzela convergence; Dini convergence; quasi-continuity; near-continuity; preproximities