Di Maio, Giuseppe; Naimpally, Somashekhar A.,
Preservation of generalized continuity. (English) Zbl 0723.54011

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 $\delta$ on $\mathcal{P}(X)$ extending the incidence relation and such that $\delta$- 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

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