Lax orthogonal factorization systems in Topology

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Fibrewise notions of continuous lattice, continuous Scott domain, and stably compact space were introduced in [1] to study injectivity for continuous maps with respect to special embeddings, as a fibrewise version of Escardó's approach to injectivity via Kock-Zoberlein monads [3, 4]. These classes of continuous maps are the right part of special weak factorization systems, the lax orthogonal ones, that were introduced in full generality in [2].

In this talk we will present the notion of lax orthogonal factorization system in a preordered enriched category, focusing on their relation to injectivity, and give several interesting examples in Topology, including those induced by filter monads in topological spaces of [1].

References

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