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On strong inclusions and asymmetric proximities in frames. (English) Zbl 1282.06013

Authors’ abstract: The strong inclusion, a specific type of subrelation of the order of a lattice with pseudocomplements, has been used in the concrete case of the lattice of open sets in topology for an expedient definition of proximity, and allowed for a natural pointfree extension of this concept. A modification of a strong inclusion for biframes then provided a pointfree model also for the non-symmetric variant. In this paper we show that a strong inclusion can be non-symmetrically modified to work directly on frames, without prior assumption of a biframe structure. The category of quasiproximal frames thus obtained is shown to be concretely isomorphic with the biframe based one, and shown to be related to that of quasi-uniform frames in a full analogy with the symmetric case.

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MSC:
06D22 Frames, locales
06D15 Pseudocomplemented lattices
54E05 Proximity structures and generalizations

Keywords:
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References:
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