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The semicontinuous quasi-uniformity of a frame, revisited. (English summary)

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The semicontinuous quasi-uniformity of a frame generalizes the semicontinuous quasi-uniformity of a topological space (known to be one of the most important examples of transitive compatible quasi-uniformities).

The aim of this paper is to provide a new treatment of the results obtained by the authors in a previous paper [*Kyungpook Math. J.* **46** (2006), no. 2, 189–200; [MR2235558 \(2006m:54050\)](#)].

The authors show how the ring of arbitrary (not necessarily continuous) real-valued functions on a frame introduced in [J. Gutiérrez García, T. Kubiak and J. Picado, *J. Pure Appl. Algebra* **213** (2009), no. 6, 1064–1074; [MR2498797 \(2010a:06020\)](#)] can be used to present these results in a nice way.

Reviewed by *Javier Gutiérrez García*

References

1. B. BANASCHEWSKI, *The Real Numbers in Pointfree Topology*, Textos de Matemática, Vol. 12, University of Coimbra, 1997. [MR1621835 \(99c:54017\)](#)
2. B. BANASCHEWSKI, G.C.L. BRÜMMER AND K.A. HARDIE, Biframes and bispaces, *Quaest. Math.* **6** (1983), 13–25. [MR0700237 \(84h:06012\)](#)
3. B. BANASCHEWSKI AND C.J. MULVEY, Stone-Čech compactification of locales II, *J. Pure Appl. Algebra* **33** (1984), 107–122. [MR0754950 \(86d:06009\)](#)
4. C. BARNHILL AND P. FLETCHER, Topological spaces with a unique compatible quasi-uniform structure, *Arch. Math. (Basel)* **21** (1970), 206–209. [MR0271903 \(42 #6784\)](#)
5. M.J. FERREIRA, *Sobre a construção de estruturas quase-uniformes em Topologia sem Pontos*, Ph.D. Thesis, University of Coimbra, 2004.
6. M.J. FERREIRA AND J. PICADO, Functorial quasi-uniformities on frames, *Appl. Categ. Structures* **13** (2005), 281–303. [MR2175952 \(2006f:54027\)](#)
7. M.J. FERREIRA AND J. PICADO, The semicontinuous quasi-uniformity of a frame, *Kyungpook Math. J.* **46** (2006), 299–306. [MR2235558 \(2006m:54050\)](#)
8. P. FLETCHER AND W.F. LINDGREN, *Quasi-uniform Spaces*, Marcel Dekker, New York, 1982. [MR0660063 \(84h:54026\)](#)
9. J. FRITH, *Structured frames*, Ph.D. Thesis, University of Cape Town, 1987.
10. J. FRITH, The category of quasi-uniform frames, *Research Reports*, Department of Mathematics, University of Cape Town, 1991.
11. J. FRITH AND A. SCHAUERTE, The Samuel compactification for quasi-uniform biframes, *Topol. Appl.* **156** (2009), 2116–2122. [MR2532140 \(2010d:06011\)](#)

12. J. GUTIÉRREZ GARCÍA, T. KUBIAK AND J. PICADO, Lower and upper regularizations of frame semicontinuous real functions, *Algebra Univ.* **60** (2009,) 169–184. [MR2491421 \(2010e:54015\)](#)
13. J. GUTIÉRREZ GARCÍA, T. KUBIAK AND J. PICADO, Localic real functions: a general setting, *J. Pure Appl. Algebra* **213** (2009), 1064–1074. [MR2498797 \(2010a:06020\)](#)
14. P. T. JOHNSTONE, *Stone Spaces*, Cambridge Studies in Advanced Mathematics, Vol. 3, Cambridge University Press, Cambridge, 1982. [MR0698074 \(85f:54002\)](#)
15. A. JOYAL, *Nouveaux Fondaments de l'Analyse*, Lecture notes (1973 and 1974), Montreal, (manuscript).
16. Y.-M. LI AND G.-J. WANG, Localic Katětov-Tong insertion theorem and localic Tietze extension theorem, *Comment. Math. Univ. Carolinae* **38** (1997), 801–814. [MR1603726 \(99b:54024\)](#)
17. R. NIELSEN AND C. SLOYER, Quasi-uniformizability, *Math. Ann.* **182** (1969), 273–274. [MR0250265 \(40 #3504\)](#)
18. J. PICADO, Weil uniformities for frames, *Comment. Math. Univ. Carolin.* **36** (1995), 357–370. [MR1357535 \(96i:54021\)](#)
19. J. PICADO, Frame quasi-uniformities by entourages, In: *Symposium on Categorical Topology (University of Cape Town 1994)*, PP. 161–175, Department of Mathematics, University of Cape Town, 1999. [MR1722578 \(2000h:54040\)](#)
20. J. PICADO, Structured frames by Weil entourages, *Appl. Categ. Structures* **8** (2000), 351–366. [MR1785854 \(2001e:54051\)](#)
21. J. PICADO AND A. PULTR, *Locales Mostly Treated in a Covariant Way*, Textos de Matemática, Vol. 41, University of Coimbra, 2008. [MR2459570 \(2010d:06012\)](#)

Note: This list reflects references listed in the original paper as accurately as possible with no attempt to correct errors.

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