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The Vietoris uniformity for locales

The Vietoris locale was introduced by Johnstone [1] as the pointfree counterpart to the classical construction of the hyperspace of non-empty compact subsets of a topological space. Here, we define the Vietoris uniformity on the Vietoris locale of a uniform locale. This is the pointfree counterpart to the classical construction of the hyperspace uniformity [2] on the hyperspace of non-empty compact subsets of a uniform space.

References

- [1] P. T. Johnstone, Vietoris Locales and Localic Semilattices, *Continuous lattices and their applications (Bremen, 1982)*, *Lecture Notes in Pure and Appl. Math.*, 101, Dekker, New York (1985) 155–180.
- [2] J. R. Isbell, Uniform spaces, *Amer. Math. Soc.*, Providence (1964).