CHARACTERIZATIONS OF NORMALITY GIVEN BY C-, C^*- AND z-EMBEDDED SUBLOCALES

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ABSTRACT. Classically, the notions of $C-$, C^*-, and z-embedded sets play an important role when characterizing normality. In the point-free context these concepts have been translated as C-, C^*- and coz-onto quotients. Nevertheless, the sublocale formulation seems to give more clarity and allows for a better understanding.

We will recall the definition of real-valued functions in the point-free setting in order to present the cozero sublocales of a frame and the notion of complete separation. It will allow us to give a characterization of C^*-embedded sublocales which generalizes, to arbitrary sublocales, the extension theorem for localic real functions of J. Gutiérrez García and T. Kubiak. As an application, we explore the relation between $C-$, C^*-, and z-embedded sublocales. Finally, we present a characterization of normality given in terms of z-embedded sublocales.
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