

Connectedness with respect to a closure operator, Part III

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The development of a general theory of topological connectedness was started by Preuß and by Herrlich. Afterwards, a considerable number of papers have been published on this subject and on possible generalizations of it. However, most of these papers used the common approach of first defining a notion of constant morphism and then use it to introduce the notions of connectedness and disconnectedness, accordingly. We began our study of connectedness in an arbitrary category by using the same approach. Nevertheless, we soon realized that a notion of connectedness with respect to a closure operator was more appealing than a constant morphism oriented one. It was shown however that our approach is still related to the previous one. As a matter of fact, our closure operator dependent notion of connectedness can be described via different generalized notions of constant morphisms, under appropriate hypotheses. The development of our notion of connectedness with respect to a closure operator is summarized and supporting examples are presented.