Branched coverings of quasi locally connected toposes

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Just as in topology, the notion of a complete spread in topos theory [2] is a useful tool in describing branched coverings of an $S$-bounded locally connected topos $E$. Inspired once again by topology, the locally connected assumption on the domains of complete spreads was removed in [3], and replaced in [4] by an assumption of quasi local connectedness, satisfied by all Grothendieck toposes. In this context, the Lawvere distributions [5] (suitable in the locally connected case) are substituted by distributions with values in the category of zero-dimensional (rather than of discrete) locales in $S$.

The purposes of this talk are as follows. The first is to examine the theory presented in [3, 4] with respect to the validity of the complete spread analysis of branched coverings [2] when $E$ is assumed to be just quasi locally connected. In particular, this gives new topological applications to branched coverings over an arbitrary topological space $E$. The second is to exploit the comprehensive factorization of a geometric morphism [3, 4] in order to begin, in the manner of [1], a study of the ‘fundamental groupoid topos’ of a quasi locally connected topos $E$ over an arbitrary base $S$. A particular instance is the case of a Grothendieck topos $E$.

References


