Globular perspective for Grothendieck ∞-topos and Grothendieck (∞, n)-topos.

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Abstract

In this short talk we first briefly recall [4] how to build, for each integers $n \geq 0$, monads T^n on the category $\mathbb{G}lob$ of globular sets which algebras are globular models of (∞, n)-categories, which have the virtue to be weak ∞-categories of Penon and thus also to be weak ∞-categories of Batanin (see [2, 6]). On the other hand we are also briefly explain how the difficult problem to prove the existence of the weak higher category of the weak higher categories on the globular setting can be replaced by a very precise technical problem, on the level of globular operads in Batanin's sense (see [1, 5]). In the conclusion of the thesis [3] we give some general pictures of how to define right and left weak higher adjunctions for weak higher functors, and also weak higher (co)limits for weak

higher functors, by using globular operads. According to an easy characterisation of Grothendieck topos (by using presheaves on a small category), we finish our talk by sketching mains tools which permit to build globular models of Grothendieck ∞-topos and Grothendieck (∞, n)-topos (by using weak higher prestacks on a small category).

References

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