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Grothendieck construction for bicategories

The purpose of the talk is to describe a generalization of the Grothendieck construction. For any bicategory $\mathcal{B}$, there are three different classes of fibration of bicategories: lax fibrations, oplax fibrations, and pseudo fibrations over $\mathcal{B}$ which form the intersection of the former two classes. Such fibrations are introduced in [**?**], and generalize 2-fibrations of strict 2-categories defined by Hermida [**?**, **?**]. We describe three different generalizations of the Grothendieck construction, which provide triequivalences between corresponding tricategories of (op)lax fibrations over $\mathcal{B}$, and tricategories of $\mathcal{B}$-indexed bicategories, which are the weakest possible generalization of pseudofunctors to the next dimension. We provide both an explicit description of these Grothendieck constructions, and a conceptual description as weighted colimits using *double bicategories* in the sense of Verity [**?**]. Finally, we introduce *double tricategories* as a natural organizational structure for the Grothendieck construction for bicategories.

References

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