

Fibrations of $(\infty, 2)$ -categories

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In this talk we introduce several notions of fibrations of $(\infty, 2)$ -categories, modelled by maps of scaled simplicial sets satisfying suitable lifting properties. These are meant to encode functors from a small $(\infty, 2)$ -category to the $(\infty, 2)$ -category of small $(\infty, 2)$ -categories, in the spirit of the Grothendieck–Lurie correspondence. The most general case requires us to deal with fibrations with $(\infty, 2)$ -categorical fibres and four possible variances must be encoded. These correspond to the functorial dependence of the 1-cells as well as the functorial dependence of the 2-cells (modelled by triangles). By doing so, we also recover in particular the case of $(\infty, 2)$ -categories fibred in ∞ -categories. We provide some basic examples of such fibrations, we list some nice properties they enjoy and finally we compare them with their enriched counterparts, that is with a natural notion of fibrations for categories strictly enriched in ∞ -categories.