

Další seminář z algebry se koná 30.10.2019 od 13.00 v zasedací místnosti ve druhém patře.

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### Cartesian fibrations of $(\infty, 2)$ -categories

#### Abstrakt:

The problem of dealing with infinitely many coherence constraints in  $\infty$ -category theory when trying to define  $\infty$ -functors has led to a fibrational approach, in which one represents diagrams of the form  $B \rightarrow \text{Cat}_{\infty}$  as a suitable kind of fibrations over  $B$ . While this is a theorem, due to Lurie, in the case of  $\infty$ -categories (i.e.  $(\infty, 1)$ -categories), so far there has been no combinatorial definition of a cartesian fibration of  $(\infty, 2)$ -categories.

In this talk, I will define cartesian fibrations in this context, prove some of their basic properties and show they are equivalent (under a suitable equivalence of  $(\infty, 2)$ -categories) to the counterpart in the context of categories enriched over marked simplicial sets (where the definition is given, *mutatis mutandis*, based on what happens with 2-categories). Furthermore, I will prove some statements made by Gaitsgory and Rozendly concerning locally cartesian fibrations and  $(\infty, 2)$ -categories fibred over  $(\infty, 1)$ -categories, thus substantiating the validity of our definition.