

Další seminář z algebry se koná 26.9.2019 od 13.00 v posluchárně M5.

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From Univalence to descent via "split indexed quasi-categories"

Univalence is a type theoretical notion at the heart of Voevodsky's Univalent Foundations Program, and Descent is a property of presentable (infinity,1)-categories introduced by Rezk as a slick way to define higher toposes. In recent years it has been understood that univalence (i.e. the existence of certain univalent maps) and descent are two sides of the same coin when the (infinity,1)-category is presentable.

In the talk I will explain this correspondence in the world of model categories, but instead via local classes in the sense of Gepner and Kock, we will take an excursion to complete Segal objects and their associated "indexed quasi-categories". We will see that in this way a third property arises naturally - call it P for short - which relates univalence and descent directly to two properties crucial for the model theory of HoTT: the fibration extension property and the weak equivalence extension property.

In the first half of the talk I will briefly introduce all notions referred to above and draw a big diagram relating them.

In the second half I will introduce the property P and elaborate on its relation to descent both in the presentable and non-presentable case, with a view towards the space between logoi in the sense of Anel and elementary higher toposes in the sense of Rasekh.