

Taxotopy: Ordered homotopy with adjunctions

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Is it possible to use purely category-theoretic language to say that a functor between small categories can be continuously deformed into another (in a way that is not necessarily reversible)? Morphisms of adjunctions provide an answer to define a ‘taxotopy’ preorder on the set of functors; such data can be combined into the fundamental poset of the ordered pair of categories.

In the talk I will discuss parallels between homotopy and taxotopy. I will focus on the fundamental posets $\Lambda(\mathbf{1}, P)$ and $\Lambda(\mathbb{Z}, P)$, for a poset P , and how they relate to the concepts of path, contractibility, cover and van Kampen theorem.

References

- [1] Kuber A., Wilding, D. Taxotopy theory of posets I: van Kampen theorems
Preprint available at <http://arxiv.org/abs/1510.08921>, 2015.