Title Effective descent morphisms in categories of lax algebras

Abstract In [3] M.M. Clementino and D. Hofmann investigate effective descent morphisms in categories of $(\mathbb{T}, \mathbf{V})$-categories, with respect to a quantale $\mathbf{V}$ and a *flat* lax extension of a **Set**-monad $\mathbb{T}$ to the category $\mathbf{V}$-**Rel** of $\mathbf{V}$-relations; in fact, in the literature, flatness is often included in the definition of lax extension. In this talk we investigate the problem of descent in categories of $(\mathbb{T}, \mathbf{V})$-categories considering the more general case of non-necessarily flat lax extensions. We introduce the notion of *triquotient maps* in the context of $(\mathbb{T}, \mathbf{2})$-categories, investigating their role in Descent Theory, based on the results in **Top** given in [2] by M.M. Clementino and D. Hofmann. If time permits, we conclude giving an overview of the problem concerning the characterization of the effective descent morphisms in $(\mathbb{T}, \mathbf{V}, \widetilde{\mathbb{T}})$-**Cat**, where $\widetilde{\mathbb{T}}$ is the *uniform extension* of $\mathbb{T}$ introduced in [4] by M.M. Clementino and D. Hofmann. This work is part of my Ph.D. Thesis [1], developed under the supervision of Maria Manuel Clementino.

References

[1] P.G. Basile, Descent Theory of $(\mathbb{T}, \mathbf{V})$-categories: global-descent and étale-descent, *Ph.D. Thesis* (2017).

[2] M.M. Clementino and D. Hofmann, Triquotient maps via ultrafilter convergence, *Proc. Amer. Math. Soc.* 130 (2002), 3423-3431.

[3] M.M. Clementino and D. Hofmann, Effective descent morphisms in categories of lax algebras, *Appl. Categ. Structures* 12 (2004), 413-425.

[4] M.M. Clementino and D. Hofmann, On extensions of lax monads, *Theory Appl. Categ.* 13 (2004), 41-60.