

Title and Abstract

Title: On regularity, Barr-exactness and pretoposes for categories enriched in metric spaces.

Abstract: In recent years there has been a growing interest in various categories which can be viewed as enriched in the symmetric monoidal category **Met** of metric spaces and non-expansive functions. One class of examples is furnished by *quantitative algebras*, introduced by Mardare, Panangaden & Plotkin [MPP16, MPP17], while another consists of categories of *metric compact Hausdorff* spaces, introduced by Hofmann & Reis [HDR18]. A recent result of Adámek [Adá24] provides a characterization of quantitative varieties in the spirit of Lawvere’s corresponding result for ordinary varieties, where the various ingredients are interpreted in an appropriate **Met**-enriched sense. In this talk, we will consider notions of **Met**-enriched regularity and Barr-exactness which are implicit in the work of Adámek, propose a corresponding notion of pretopos and discuss some work in progress and open questions concerning these notions.

References

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