

# **C-VARIETIES OF ORDERED AND QUANTITATIVE ALGEBRAS**

JIRÍ ADÁMEK

Mardare, Panangaden and Plotkin introduced c-varieties of algebras on metric spaces. These are categories of metric-enriched algebras specified by equations in a context. A context puts restrictions on the distances of variables one uses. We prove that c-varieties are precisely the monadic categories over  $\text{Met}$  for countably accessible enriched monads preserving epimorphisms.

We analogously introduce c-varieties of ordered algebras as categories specified by inequalities in a context. Which means that conditions on inequalities between variables are imposed. We prove that c-varieties precisely correspond to enriched finitary monads on  $\text{Pos}$  preserving epimorphisms.

This is joint work with Jiri Rosicky.