

Sessão: Métodos Categóricos em Álgebra e Topologia

On the Continuity Property of Localic Maps

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Mending the contravariance of the natural pointfree representation of classical spaces and continuous maps one replaces the category of frames and frame homomorphisms by its dual category \mathbf{Loc} of locales. To make \mathbf{Loc} a concrete category one represents its morphisms, referred to as *localic maps*, by the (unique) right Galois adjoints of the corresponding frame homomorphisms. Then localic maps may be regarded as the pointfree extension of continuous maps.

In the classical setting, a map between topological spaces is continuous if preimages of open sets are open or, equivalently, preimages of closed sets are closed. In this talk we will address the question of characterizing localic maps, among plain maps, in such terms related to continuity. If time permits, related questions on openness and completeness of localic maps will also be treated.

This is based on joint work with Marcel Erné and Aleš Pultr [1].

References

- [1] M. Erné, J. Picado and A. Pultr, *Adjoint maps between implicative semilattices and continuity of localic maps*, Algebra Universalis 83 (2022) Art. No. 13.