

REMARKS ON THE T_D -DUALITY

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It was shown by Banaschewski and Pultr [3] that the classical adjunction between **Top** and **Loc** restricts to an adjunction between the category **Top_D** of T_D -spaces and their continuous maps, and the category **Loc_D** of all locales and localic maps which preserve coveredness of primes, thus one may regard **Loc_D** as a category of generalized T_D -spaces. In this talk, following [1,2], we shall discuss the basic properties of the category **Loc_D**, paying special attention to its subobject lattices (i.e., the lattices of generalized subspaces in the T_D -duality). We will provide some applications in point-free topology and stress the similarities and differences between the classical sober-spatial duality and the T_D -duality.

Parts of this talk are joint work with Javier Gutiérrez García and Anna Laura Suarez.

REFERENCES

- [1] I. Arrieta and J. Gutiérrez García, On the categorical behaviour of locales and D -localic maps, DMUC preprint 21-50.
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- [3] B. Banaschewski and A. Pultr, Pointfree aspects of the T_D -axiom of classical topology, *Quaest. Math.*, 33(3) (2010), 369–385.

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