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Normality for approach spaces and contractive realvalued maps

In this talk, we will discuss a notion of normality for approach spaces in the sense of [4], based on a Katětov-Tong-type interpolation property for contractive realvalued maps (which was developed in [1, 2]), and investigate its relation to existing normality concepts for approach spaces coming from monoidal topology (see [3]) or the setting of approach frames (see [3, 5]).

References

[1] Colebunders, E., Sioen, M. and Van Den Haute, W., Normality in terms of distances and contractions, *J. Math. Anal. Appl.* 461 (2018) 74–96.

[2] Colebunders, E., Sioen, M. and Van Den Haute, W., Normality, regularity and contractive realvalued maps, *Appl. Categ. Struct.*, to appear.

[3] Hofmann, D., Seal, G.J. and Tholen, W. (eds), Monoidal Topology: a Categorical Approach to Order, Metric and Topology, *Cambridge University Press* (2014).

[4] Lowen, R., Index Analysis: Approach Theory at Work, *Springer Verlag* (2015).

[5] Van Olmen, A study of the interaction between frame theory and approach theory, *PhD Thesis, University of Antwerp* (2005).

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