

Closure, interior and neighbourhood in a category

David Holgate *

While there is extensive literature on closure operators in categories, less has been done in terms of their “dual” – interior and neighbourhood operators. We establish an equivalence between interior and neighbourhood operators and analyse a number of canonical correspondences between closure and interior/neighbourhood. While these correspondences coincide for the usual notions in general topology, the analysis highlights subtle differences which distinguish different approaches taken in the literature.

REFERENCES

- [1] E. Giuli and J. Šlapal, *Neighborhoods with respect to a categorical closure operator*, Acta Math. Hungar. 124 (2009) 1–14.
- [2] E. Giuli and W. Tholen, *Openness with respect to a closure operator*, Appl. Categ. Structures 8 (2000) 487–502.

*Joint work with Josef Šlapal.