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**Marco Vergura\*** (mvergura@uwo.ca). *Localization theory in an  $\infty$ -topos.*

Inspired by recent work [CORS18] in homotopy type theory, we develop the theory of *reflective subfibrations* of an  $\infty$ -topos  $\mathcal{E}$ . A reflective subfibration  $L$  of  $\mathcal{E}$  is a pullback-compatible assignment of a reflective subcategory  $\mathcal{D}_X \subseteq \mathcal{E}_{/X}$  with reflector  $L_X$ , for every  $X \in \mathcal{E}$ . Reflective subfibrations abound in homotopy theory, albeit often disguised, e.g., as stable factorization systems. Our work may thus lead to new insights on classically studied localizations. The added properties of a reflective *subfibration*  $L$  with respect to a mere reflective *subcategory* are crucial for most of our results. For example, we can prove that  *$L$ -local maps* (i.e., those  $p \in \mathcal{E}_{/X}$  such that  $L_X(p) \simeq p$ ) admit a classifying map. The existence of such a classifying map is a powerful tool we exploit to prove many results, including our main one, the existence of a reflective subfibration  $L'$  whose local objects are exactly those with  $L$ -local diagonal map.

## References

[CORS18] J. D. Christensen, M. Opie, E. Rijke, and L. Scoccola, *Localization in Homotopy Type Theory*, arXiv e-prints (2018), arXiv:1807.04155.

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