

HIGHER CATEGORIES AND CATEGORIFICATION CATEGORÍAS SUPERIORES Y CATEGORIFICACIÓN

PART 1

MSRI, Berkeley, California
January 21 to May 29, 2020

- [1] J. E. BERGNER, *The homotopy theory of $(\infty, 1)$ -categories*, London Mathematical Society Student Texts **90**, Cambridge University Press, Cambridge, 2018, ISBN 978-1-107-49902-7; 978-1-107-10136-4. [MR 3791455](#). [Zbl 1396.18001](#). doi: [10.1017/9781316181874](#).
- [2] D.-C. CISINSKI, *Higher categories and homotopical algebra*, Cambridge Studies in Advanced Mathematics **180**, Cambridge University Press, Cambridge, 2019, ISBN 978-1-108-47320-0. [MR 3931682](#). [Zbl 1430.18001](#). doi: [10.1017/9781108588737](#).
- [3] K. COSTELLO and O. GWILLIAM, *Factorization algebras in quantum field theory, Vol. 1*, New Mathematical Monographs **31**, Cambridge University Press, Cambridge, 2017, ISBN 978-1-107-16310-2. [MR 3586504](#). [Zbl 1377.81004](#). doi: [10.1017/9781316678626](#).
- [4] B. FRESSE, *Homotopy of operads and Grothendieck–Teichmüller groups, 1: The algebraic theory and its topological background*, Mathematical Surveys and Monographs **217**:1, American Mathematical Society, Providence, RI, 2017, ISBN 978-1-4704-3481-6. [MR 3643404](#). [Zbl 1373.55014](#). doi: [10.1090/surv/217.1](#).
- [5] B. FRESSE, *Homotopy of operads and Grothendieck–Teichmüller groups, 2: The applications of (rational) homotopy theory methods*, Mathematical Surveys and Monographs **217**:2, American Mathematical Society, Providence, RI, 2017, ISBN 978-1-4704-3482-3. [MR 3616816](#). [Zbl 1375.55007](#). doi: [10.1090/surv/217.2](#).
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- [8] P. HACKNEY, M. ROBERTSON, and D. YAU, *Infinity properads and infinity wheeled properads*, Lecture Notes in Mathematics **2147**, Springer, Cham, 2015, ISBN 978-3-319-20546-5; 978-3-319-20547-2. [MR 3408444](#). [Zbl 1338.18002](#). doi: [10.1007/978-3-319-20547-2](#).

- [9] J. LURIE, *Higher topos theory*, Annals of Mathematics Studies **170**, Princeton University Press, Princeton, NJ, 2009, ISBN 978-0-691-14049-0; 0-691-14049-9. MR 2522659. Zbl 1175.18001. doi: [10.1515/9781400830558](https://doi.org/10.1515/9781400830558).
- [10] H. MILLER (ed.), *Handbook of homotopy theory*, Handbooks in Mathematics Series, CRC Press, Boca Raton, FL, 2020, ISBN 978-0-815-36970-7. MR 4197980. Zbl 1468.55001. doi: [10.1201/9781351251624](https://doi.org/10.1201/9781351251624).
- [11] S. PAOLI, *Simplicial methods for higher categories: Segal-type models of weak n -categories*, Algebra and Applications **26**, Springer, Cham, 2019, ISBN 978-3-030-05673-5; 978-3-030-05674-2. MR 3932125. Zbl 1428.18001. doi: [10.1007/978-3-030-05674-2](https://doi.org/10.1007/978-3-030-05674-2).
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- [13] V. G. TURAEV, *Homotopy quantum field theory*, EMS Tracts in Mathematics **10**, European Mathematical Society, Zürich, 2010, ISBN 978-3-03719-086-9. MR 2674592. Zbl 1243.81016. doi: [10.4171/086](https://doi.org/10.4171/086).
- [14] V. G. TURAEV, *Quantum invariants of knots and 3-manifolds*, 3rd ed., De Gruyter Studies in Mathematics **18**, De Gruyter, Berlin, 2016, ISBN 978-3-11-044266-3; 978-3-11-043522-1; 978-3-11-043456-9. MR 3617439. Zbl 1346.57002. doi: [10.1515/9783110435221](https://doi.org/10.1515/9783110435221).

PART 2

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May 30 to June 24, 2022

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- [2] E. RIEHL and D. VERITY, *Elements of ∞ -category theory*, Cambridge Studies in Advanced Mathematics **194**, Cambridge University Press, Cambridge, UK, 2022, ISBN 978-1-108-83798-9. MR 4354541. Zbl 7401241. doi: [10.1017/9781108936880](https://doi.org/10.1017/9781108936880). <https://elements-book.github.io/elements.pdf>.