

Introduction to DAG - Minicourse on derived stacks

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Tentative outline.

- I. Functor of points.
- II. Introduction to ∞ -categories.
- III. Flavors of derived commutative rings.
- IV. Derived stacks.
- V. The cotangent complex.
- VI. Deformation theory.
- VII. Example: the Picard stack.
- VIII. Artin–Lurie representability.
- IX. Example: the moduli of objects.

Resources. For ∞ -categories: Chapter 1 of [3]. For model categories, the survey of Dwyer and Spalinski [2]. For everything else, my course notes [1] and the references there.

References

- [1] Benjamin Antieau, *Math 521 - derived algebraic geometry*, available at https://antieau.github.io/assets/pdf/9weeks_0.1.pdf (2020, version 0.1).
- [2] W. G. Dwyer and J. Spaliński, *Homotopy theories and model categories*, Handbook of algebraic topology, North-Holland, Amsterdam, 1995, pp. 73–126. MR 1361887
- [3] Jacob Lurie, *Higher topos theory*, Annals of Mathematics Studies, vol. 170, Princeton University Press, Princeton, NJ, 2009. MR 2522659