

GAUS AG ON EXODROMY

1. TIME AND PLACE

Fridays, 10:15–11:45, 05-514.

Exception: the first two talks are on Thursdays, 12:30–14:00.

2. REFERENCES

The main reference is

- *Exodromy* by Clark Barwick, Saul Glasman and Peter Haine, available at <https://arxiv.org/abs/1807.03281>.

Other useful references are:

- *Higher Topos Theory* by Jacob Lurie, available at <https://www.math.ias.edu/~lurie/papers/HTT.pdf>
- *Higher Algebra* by Jacob Lurie, available at <https://www.math.ias.edu/~lurie/papers/HA.pdf>

3. PROGRAM

26.10.	Introduction	Tom	
2.11.	Stratified spaces	Alisa	Briefly explain the notion of a stratified topological space and how it relates to stratified spaces, i.e. §1.2 & Theorem 2.1.2. Then treat the rest of §2.1–2.5.
10.11.	Spatial décollage	Linus	Explain the complete segal space model for ∞ -categories. Then treat §2.6–2.8.
17.11.	∞ -topoi	Timo	Definition of ∞ -topos [HTT, Def. 6.1.0.4], statement of Giraud’s axioms [HTT, Thm. 6.1.0.6]. Define the ∞ -topos of sheaves on a Grothendieck topology [HTT, Prop. 6.2.2.7]. Define the category of ∞ -topoi [HTT, §6.1.3]. Sketch the definition of an n -topos [HTT, §6.1.4].
24.11.	Bounded coherent ∞ -topoi	Luca	§3.1–§3.7, §3.11
1.12.	Shape theory	Lorenzo	§4.2, statement of Proposition 4.3.5. Explain the definition of the shape §4.4. Deduce Stone duality (Theorem 4.4.3) from Proposition 4.3.5. Explain 4.4.10, 4.4.14, 4.4.16, 4.4.18–4.4.21.
8.12.	Oriented fibre products	Georg	§5.1, 5.2.1, §5.3–§5.4
15.12.	Sites for oriented fiber products	Tom	§5.5–§5.6
22.12.	Local ∞ -topoi	Klaus	§6
12.1.	Beck–Chevalley conditions	?	Explain as much as manageable about Theorem 7.1.7.
19.1.	Gluing squares	?	§5.2, §8.5
26.1.	Stratified higher topoi	?	§8.1–§8.4, §8.6–§8.8. The main result you should aim for is Proposition 8.8.6.
2.2.	Spectral higher topoi	?	Define spectral higher topoi and prove Theorem 9.3.1. Explain Proposition 9.5.4 and Theorem 10.1.8.
9.2.	Galois categories	Marcin	Explain §12.1. Then treat some enjoyable subset of §14.4 and §14.5.