

# LEARNING GROUP ON CONDENSED MATHEMATICS

## BEIJING, FALL 2024

The goal of this learning group is to learn about basics of condensed mathematics. The scope will include but not be restricted to the theory of solid abelian groups.

### ORGANIZERS

Heng Du, Foling Zou, Yihang Zhu

### TIME AND PLACE

### REFERENCES

The main references:

- [Cam24] Camargo, *Notes on Solid Geometry*. Sent upon request.
- Clausen and Scholze, *24 lectures on Analytic Stacks, at IHES and Bonn, Fall 2023*.

Videos available online:

[https://www.youtube.com/watch?v=YxSZ1mTIpAA&list=PLx5f8IelFRgGmu6gmL-Kf\\_Rl\\_6Mm7juZ0&index=1](https://www.youtube.com/watch?v=YxSZ1mTIpAA&list=PLx5f8IelFRgGmu6gmL-Kf_Rl_6Mm7juZ0&index=1)

or

[https://www.bilibili.com/video/BV1MDvCeHEWd/?spm\\_id\\_from=333.337.search-card.all.click&vd\\_source=a5be8a75eb29fe979a159e395ace04ae](https://www.bilibili.com/video/BV1MDvCeHEWd/?spm_id_from=333.337.search-card.all.click&vd_source=a5be8a75eb29fe979a159e395ace04ae)

Complementary reference:

- [CS19] Clausen and Scholze, *Lectures on Condensed Mathematics, 2019*. available <https://people.mpim-bonn.mpg.de/scholze/Condensed.pdf>

**\* Some main definitions in [CS19] have been significantly updated in the newer version of the theory, as presented in the two main references.**

### TALK SCHEDULE

All references are to [Cam24].

**Talk 1, 10/14.** 2.1, 2.2. You can also include some background discussion following Lecture 1 of [CS19].

**Talk 2, 10/21.** 2.3

**Talk 3, 10/28.** 3.1, 3.2.1, 3.2.2, Proof of 3.2.4 until the end of part (1). If you still have time, state the full 3.2.3.

**Talk 4, 11/4.** The rest of the proof of 3.2.4. 3.2.5.

**Talk 5, 11/11.** 3.3. This may take two talks.

**Talk 6, 11/18.** 3.4.

### REFERENCES