

Oberseminar “Analytic stacks” after Clausen–Scholze

In this seminar we want to go through the lecture series of Clausen-Scholze on analytic stacks. This lecture series is currently available on Youtube, so it will be a bit of a different source material than usual. There will be some redundancies with the seminar on condensed mathematics that we ran in the winter term 22/23. Some of the first lectures will be a review of the concepts discussed there (except that there is the new version of the condensed world using ‘light’ condensed sets). We will however not assume familiarity with condensed mathematics and following the lecture series explain everything from scratch.

We will however assume familiarity with the language of higher categories, derived categories, animated rings etc. If you don’t feel comfortable with that then please come and speak to the people that know these things. I think this is more useful than adding talks that introduce these concepts, as they are usually best learned by working with them.

Generally we try to follow closely the lectures (except that we sometimes skip material) and so it is a good preparation and generally useful to watch some of these lectures in advance.

We decided that we go through the basic material, i.e. the first six videos, first and then see how to proceed and distribute the remaining talks. Therefore the current programme only includes those first five talks.

Program

Talk 1 (Introduction and Overview, **Thomas**, 8.4). Follow Lecture 1 to give an idea and overview of the course and Lecture 2 & Lecture 3 (up until minute 29) to introduce light condensed sets and prove the basic properties following Scholze’s lectures.

Talk 2 (Light condensed abelian groups and their cohomology, **Claudius**, 15.4). Lecture 3 (minute 30 until the end) and Lecture 4 until minute 50.

Talk 3 (Locally compact abelian groups, **Christopher**, 22.4). Lecture 4 from minute 50 on until the end

Talk 4 (Solid light abelian groups, **Vlad**, 29.4). Lecture 5

Talk 5 (Examples and structure of solid modules, **Anastasia**, 6.5). Lecture 6.