

Friedrich-Hirzebruch-Kolloquium

Algebraic geometry from the solid perspective

Prof. Dr. Dustin Clausen (University of Copenhagen)
15 December 2022 | 16:00 s.t. | lecture hall M2

Traditionally in scheme theory, one studies a commutative ring R by introducing a topological space $\text{Spec}(R)$ such that many questions about R can be studied locally on $\text{Spec}(R)$. The most fundamental example of this is that we have "descent for R -modules", meaning that linear algebra over R in some sense localizes on $\text{Spec}(R)$. This is quite powerful, but for some purposes, usual R -modules are not sufficient. This led us, in joint work with Peter Scholze, to introduce a larger category of "Solid R -modules".

In this talk I'll explain what is a solid R -module, why we care to consider these more general modules, and finally, what kind of natural space the solid R -modules localize on. It turns out that this space is much more intricate and expressive than the usual $\text{Spec}(R)$.

After the talk there will be a reception at the SRZ Lounge, Orléans-Ring 12, 2nd floor.