

Algebraic geometry reading seminar

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In order to discuss some interesting topics, we plan to hold an algebraic geometry reading seminar. The organizers and the main speakers of the seminar are Zhengze Xin and Xuande Liu. We will post our information, videos, notes and any other materials on the website of the seminar. The seminar is hold once a week and the time is still under discussion. The seminar is about two or three hours every time and we will take a rest every hour.

The topic of the seminar are based on our interests. Roughly speaking, we will develop enough tools to learn the frontier in birational geometry and A^1 homotopy theory. The first topic of the seminar is the intersection theory. Basically, we will cover the first eight chapters of Fulton's famous book. Furthermore, we recommend following materials:

1. 3264& all that: Intersection theory in Algebraic Geometry. The book provides a lot of examples including emuerative algebraic geometry.
2. Vakil's note. This is the note of Vakil's course.
3. Zhang's note. This is the note of Qizheng Yin's course, including some content on motive theory.
4. Chao Li's note.
5. Stacks Project. Chapter 42 is concentrated on establish the theory of Chow homology and Chern class. But it works on schemes over S , a noetherian universally catenary scheme, rather than a field. Chapter 43 is concentrated on the chow ring on smooth quasi-projective varieties.

Our plan for the seminar is as follows:

1. The first talk is an introduction on intersection and the basic setting, including rational equivalence, functoriality of chowing ring and some examples. The content covers the first chapter.
2. The second talk is about intersection of divisors, Segre classes and Chern classes. The content covers chapter 2 and chapter 3.
3. The third talk is about the cones. The content covers chapter 4 and chapter 5.
4. The fourth talk is about refined Gysin map, intersection product and intersection multiplicity. The content covers chapter 6 and chapter 7.
5. The fifth talk is about the Chow ring structure theorem on nonsingular quasi-projective variety. The content covers chapter 8 and some of chapter 11.
6. The sixth talk is about the relation of intersection theory and K-theory. The content covers chapter 19.

Xuande Liu and Zhengze Xin will hold the seminar alternatively. But we welcome other participants to give a talk(or a part of the talk). Our contact information is as follows:
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