2020 Spring Mathematics Seminars

Mirror Symmetry

- Organizers: Zengrui Han, Jingbin Cai
- Time & Room: TBA
- Preliminary Knowledge: Basic knowledge of Kahler Geometry and Calabi-Yau manifolds
- Reference: [1][2]
- Remark: Our goal is to finish the first seven chapters of [1].

Elliptic Modular Form

- Organizer: Xiaoxiang Zhou
- Time & Room: TBA
- Preliminary Knowledge: Complex Analysis (Knowledge on Riemann Surfaces is also recommended)
- Reference: [3][4]
- QQgroup: 977690330

Algebraic topology / Differential topology

- Organizer: Junhao Tian
- Time & Room: TBA
- Preliminary Knowledge: General topology, a little algebraic topology
- Reference: [5][6]
- Main contents: Characteristic Classes, Morse theory, cobordism, K-theory, model category, Hopf algebra

Bibliography

[1] Sheldon Katz David A. Cox. *Mirror symmetry and algebraic geometry*. Mathematical surveys and monographs 68. American Mathematical Society, 1999.

[2] Andrei Moroianu. *Lectures on Kähler Geometry*. London Mathematical Society Student Texts. Cambridge University Press, 2007.

[3] Don Zagier. Elliptic modular forms and their applications. In *The 1-2-3 of modular forms*, pages 1–103. Springer, 2008.

[4] 李文威. 模形式初步. 科学出版社 http://www.wwli.url.tw/downloads/Modulform.pdf, 2020.

[5] Loring W. Tu Raoul Bott. *Differential forms in algebraic topology*. Graduate Texts in Mathematics 82. Springer, 1995.

[6] J. P. May K. Ponto. *More Concise Algebraic Topology: Localization, Completion, and Model Categories (Chicago Lectures in Mathematics)*. Chicago Lectures in Mathematics. University Of Chicago Press, 2012.

Remarks

These seminars are organized by USTC students. Please email me if you would like to put your seminar on this poster. You can also find it on my homepage: https://zengruihan.github.io/

Zengrui Han

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