

报告人 Lecturer

杨跃 Yue Yang

新加坡国立大学数学系教授

Professor at the department of mathematics,
National University of Singapore



时间/地点 How to come

时间

▷ 9月25日 - 11月27日 每周五 上午10:00-11:30

地点

▷ 复旦大学光华楼西辅楼 201室

When

▷ 10:00-11:30 a.m., every Friday from Sep. 25 to Nov. 27

Where

▷ Room 201, Guanghai Tower west attach floor
220 Handan Road, Shanghai

研讨班信息更新 Seminar information update



Logic @ Fudan

<http://logic.fudan.edu.cn/courses>

内容提要

- ▶ 反推数学与希尔伯特计划
- ▶ 二阶算术子系统: RCA_0 、 ACA_0 、 WKL_0
- ▶ 拉姆齐定理的经典证明与能行性
 - ▷ $ACA_0 \vdash RT_n^k$
 - ▷ $WKL_0 \not\vdash RT_2^2$
- ▶ 西塔潘定理: $RT_2^2 \not\vdash ACA_0$
- ▶ 刘路定理: $RT_2^2 \not\vdash WKL_0$

Outline

- ▶ Reverse mathematics and Hilbert's Program
- ▶ Subsystems of second-order arithmetic
 - RCA_0 、 ACA_0 、 WKL_0
- ▶ Ramsey theorem: classical proof and effectiveness
 - ▷ $ACA_0 \vdash RT_n^k$
 - ▷ $WKL_0 \not\vdash RT_2^2$
- ▶ Seetupan's con avoiding theorem: $RT_2^2 \not\vdash ACA_0$
- ▶ Liu's theorem: $RT_2^2 \not\vdash WKL_0$

参考资料 Reading list

- ▶ Stephen G. Simpson, *Subsystems of Second Order Arithmetic*, 2010.
- ▶ Denis R. Hirschfeldt, *Slicing the Truth*, 2014.
- ▶ Jiayi Liu, "RT₂² does not imply WKL₀", *Journal of Symbolic Logic*, 2012

反推数学游览图 Reverse Mathematics Zoo



<http://rmzoo.math.uconn.edu/>