Hodge 理论研讨会（USTC 2025)

Time: 8 月 15-19 日(14 日注册)

Site: 数学科学学院新楼 312

Organizers: 科大代数几何团队

Contact : 张磊（ zhlei18@ustc.edu.cn, 13572098164)
申屠钧超（stjc@ustc.edu.cn, 17856532452)

Schedule

<table>
<tr><td></td><td>8 月 15 日
（周五）</td><td>8 月 16 日
（周六）</td><td>8 月 17 日
（周日）</td><td>8 月 18 日
（周一）</td><td>8 月 19 日
（周二）</td></tr>
<tr><td>9：30
-10：20</td><td>盛茂</td><td>孙浩</td><td>吴昊宇</td><td>申屠钧超
(线上 9: 00)</td><td>付艺渲
（9: 00）</td></tr>
<tr><td>10：30
-11：20</td><td>刘浩浩</td><td>林小进</td><td>杨金榜</td><td>贺乔
李念梓</td><td>刘博文</td></tr>
<tr><td colspan="6">午餐（教工餐厅）</td></tr>
<tr><td>14：00
-14：50</td><td>汪建平</td><td>徐识</td><td rowspan="2">张磊
胡晓文
周子健</td><td>许金兴</td><td rowspan="2">自由讨论</td></tr>
<tr><td>15：00
-16：30</td><td>王强</td><td>范嘉荣</td><td>朱一鸣</td></tr>
<tr><td colspan="6">自由讨论以及晚餐（教工餐厅），周四 16：50 后志愿短报告</td></tr>
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报告信息

Reading Paper Report:

范嘉荣、周子健、张磊（中国科学技术大学）、胡晓文（大湾区大学）
Markman: Cycles on abelian 2n-folds of Weil type from secant sheaves on abelian n-folds.

王强（中国科学技术大学）
Kawamata: Minimal models and the Kodaira dimension of algebraic fiber spaces.

朱一鸣（中国科学技术大学）
Hacon, Popa and Schnell: Algebraic fiber spaces over abelian varieties: around a recent theorem by Cao and Păun.

Research Report:

盛茂（清华大学，中国科学技术大学）
Nonlinear Hodge correspondence in positive characteristics

刘浩浩（斯特拉斯堡大学）
Title: Specialization of Néron-Severi groups of normal varieties

Abstract: For a proper algebraic variety X, its Néron-Severi group $\mathrm{NS}(X):=\mathrm{Pic} X/\mathrm{Pic}^0X$ is a finitely generated abelian group. Given an irreducible variety B with generic point η over a field of characteristic 0 and a smooth family of algebraic varieties $f:X\to B$, André shows that there is a closed point $b\in B$ with $\mathrm{NS}(X_{\bar b})$ isomorphic to $\mathrm{NS}(X_{\bar\eta})$. His proof is Hodge theoretic. Later, Maulik and Poonen give a completely different p-adic proof, using the crystalline cohomology. We explain how to generalize this result to a family of normal varieties using the infinitesimal cohomology. \iffalse Our proof uses the Gauss-Manin connection on Hartshorne's relative de Rham cohomology sheaves for singular morphisms, as well as an analog of the p-adic Lefschetz $(1,1)$-theorem due to Berthelot and Ogus.\fi Although we use an intermediate result of Maulik and Poonen, in smooth case our strategy partially differs from the proofs of André, Maulik and Poonen.

汪建平（清华大学）
Higgs-de Rham flow for principal bundles and its applications

孙浩（华南理工大学）
On the image of the Hitchin morphism on higher dimensional varieties

林小进（清华大学）

Galois-Compatible Categorical Uniformization with Applications to Function Fields

徐识（清华大学）
Canonical Models of Adjoint Foliated Structures on Surfaces

吴昊宇（清华大学）
Birational geometry of moduli spaces of log del Pezzo pairs

杨金榜（中国科学技术大学）
TBA

申屠钧超（中国科学技术大学）

贺乔（哥伦比亚大学）
Title: Recent progresses on Kudla program
Abstract: Kudla program is an influencial program that aims to find analogue of theta correspondence in the world of arithmetic geometry. In this talk, we will explain the program and introduce various recent progresses on this topic, including modularity of arithmetic theta series and arithmetic Siegel-Weil formula.

李念梓（清华大学）
Holomorphic connections on nonlinear fibrations

许金兴（中国科学技术大学）
TBA

付艺渲（清华大学）
(abelian and nonabelian)Gauss--Manin connection and Griffiths transversality

刘博文（清华大学）
Strong semistability of Higgs bundles over curves