RIMS Kôkyûroku Bessatsu B24

Higher Dimensional Algebraic Geometry

edited by Shigeru Mukai and Noboru Nakayama

Higher Dimensional Algebraic Geometry

December 14～18, 2009

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Research Institute for Mathematical Sciences

Kyoto University, Kyoto, Japan

Preface

This volume of Kôkyûroku Bessatsu is the proceedings of the workshop

"Higher Dimensional Algebraic Gemetry"

which was held at the Research Institute for Mathematical Sciences (RIMS) of Kyoto University during December 14–18, 2009. There were 20 lectures at the workshop and this volume collects nine contributions from the speakers. As the editors we would like to thank the referees. Special thanks are due to the organizer Professor Daisuke Matsushita.

Shigeru Mukai
Noboru Nakayama

PROGRAM

RIMS Workshop on

Higher Dimensional Algebraic Geometry

Organizer: Daisuke Matsushita (Hokkaido University)

Period: December 14 – December 18, 2009

Place: Room 127, Faculty of Science Building #3, Kyoto University

December 14, Monday

13:15 – 14:15　Osamu Fujino (Kyoto University)
Non-lc ideal sheaves

14:30 – 15:30　Hisanori Ohashi (Kyoto University)
Integral sections of some elliptic $K3$ surface and the binary Golay code

15:45 – 16:45　Taro Fujisawa (Tokyo Denki University)
Polarization on the limiting mixed Hodge structure

December 15, Tuesday

9:00 – 10:00　Takashi Kishimoto (Saitama University)
An application of log minimal model program to affine algebraic threefolds

10:15 – 11:15　Shigeru Kuroda (Tokyo Metropolitan University)
The wildness of several automorphisms of a polynomial ring

13:15 – 14:15　Akira Fujiki (Osaka University)
The relative Picard varieties for certain degenerations with application to twistor spaces

14:30 – 15:30　Kazushi Ueda (Osaka University)
Dimer models and exceptional collections

15:45 – 16:45　Young-Hoon Kiem (Seoul National University)
On the birational geometry of moduli spaces of rational curves in projective space

December 16, Wednesday

9:00 – 10:00   Nobuyoshi Takahashi (Hiroshima University)
Descending chain condition for stringy invariants

10:15 – 11:15   Katsuhisa Furukawa (Waseda University)
Defining ideal of the Segre locus in arbitrary characteristic

13:15 – 14:15   Kimiko Yamada (Kyoto University)
Birational aspects of moduli scheme of stable sheaves on a surface

14:30 – 15:30   Masao Aoki (University of Tokyo)
On the Picard groups of the moduli stacks of curves

15:45 – 16:45   Xavier Roulleau (University of Tokyo)
On the cotangent map of surfaces of general type

December 17, Thursday

9:00 – 10:00   Shunsuke Takagi (Kyushu University)
On F-jumping numbers

10:15 – 11:15   Takehiko Yasuda (Kagoshima University)
An application of the Frobenius morphism of a noncommutative blowup

13:15 – 14:15   Nobuo Hara (Tohoku University)
Splitting of Frobenius sandwiches

14:30 – 15:30   Karl Schwede (University of Michigan)
On the behavior of the test ideal under finite maps

15:45 – 16:45   Anna Cadoret (Université de Bordeaux)
Kodaira dimension of the generic ℓ-primary torsion for abelian schemes over surfaces

December 18, Friday

9:00 – 10:00   Takuzo Okada (Kyoto University)
Birational unboundedness of $\mathbb{Q}$-Fano varieties of dimension at least five

10:15 – 11:15   De-Qi Zhang (National University of Singapore)
Zariski decomposition and Lagrangian fibration on compact HyperKähler manifolds

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