

## Contents

<b>Preface</b>	ix
<i>Plenary Speakers</i>	
<b>Sustained <math>p</math>-divisible groups and a foliation on moduli spaces of abelian varieties</b>	
CHING-LI CHAI	3
<b>Deformation quantization and Kähler geometry with moment map</b>	
AKITO FUTAKI AND LAURENT LA FUENTE-GRAVY	31
<b>Geometric partial differential equations from unified string theories</b>	
DUONG H. PHONG	67
<b>Total mass and limits of quasi-local mass at future null infinity</b>	
MU-TAO WANG	89
<b>Arm exponents in planar critical lattice models</b>	
HAO WU	103
<i>Nominated Invited Speakers</i>	
<b>Volume preserving flow and geometric inequalities</b>	
BEN ANDREWS AND YONG WEI	119
<b>Enumeration of points on algebraic varieties</b>	
YALONG CAO	149
<b>Schwarz iteration method for elliptic equation with rough media based on random sampling</b>	
KE CHEN, QIN LI AND STEPHEN J. WRIGHT	163
<b>Complete self-shrinkers of mean curvature flow</b>	
QING-MING CHENG AND GUOXIN WEI	179
<b>The isoparametric story, a heritage of Élie Cartan</b>	
QUO-SHIN CHI	197

<b>On Chern Conjecture and its generalization</b> JUANRU GU, LI LEI, HONGWEI XU AND ZHIYUAN XU	261
<b>A mathematical picture language project</b> ARTHUR JAFFE AND ZHENGWEI LIU	275
<b>Quantum chaos and fractal uncertainty principle</b> LONG JIN	293
<b>Lipschitz-volume rigidity and globalization</b> NAN LI	311
<b>Stability and Fourier-Mukai transform on elliptic threefolds</b> JASON LO	323
<b>Local theta correspondence: the basic theory</b> BINYONG SUN AND CHEN-BO ZHU	339
<b>Symplectic analysis of differential forms</b> LI-SHENG TSENG AND LIHAN WANG	351
<b>The global curvature estimates for Hessian equations</b> ZHIZHANG WANG	367
<b>Recent progress on the Dirichlet problem for the minimal surface system and minimal cones</b> YONGSHENG ZHANG	385
<b>Simultaneous Diophantine approximation in function fields</b> ZHIYONG ZHENG AND ZIWEI HONG	399
<i>Best Paper Award Winners</i>	
<b>A survey on a theory relating Green functions with Painlevé VI equations</b> ZHIJIE CHEN	429
<b>Topology of symplectomorphism groups and ball-swappings</b> JUN LI AND WEIWEI WU	445
<b>On gravitational collapse and weak cosmic censorship in general relativity</b> JUNBIN LI	465
<b>One dimensional Chern-Simons theory and deformation quantization</b> QIN LI	487
<b>Iwasawa theory, Heegner points and BSD conjecture</b> XIN WAN	503
<b>Open problems on random band matrices</b> JUN YIN	519

*Distinguished Paper Award Winners*

<b>Transverse regularizations of central force problems by Hamiltonian structure</b>	
URS FRAUENFELDER AND LEI ZHAO	539
<b>Geometric and combinatorial properties of planar graphs with nonnegative curvature</b>	
BOBO HUA	553
<b>On Ricci flows with curvature bounded by <math>\frac{C}{t}</math></b>	
SHAOCHUANG HUANG	567
<b>Positive representations: recent developments</b>	
IVAN C. H. IP	583
<b>Recent progress on pointwise convergence for the Schrödinger equation in <math>\mathbb{R}^2</math></b>	
XIUMIN DU AND XIAOCHUN LI	613
<b>A survey on Yau's uniformization conjecture and its related problems</b>	
GANG LIU	627
<b>Parabolic complex Monge-Ampère equations on compact Kähler manifolds</b>	
SEBASTIEN PICARD AND XIANGWEN ZHANG	639
<b>Towards decompositions of small transitions of Calabi-Yau threefolds</b>	
SZ-SHENG WANG	667
<b>Geodesic centroidal Voronoi tessellations: theories, algorithms and applications</b>	
ZIPENG YE, RAN YI, YONG-JIN LIU, MINJING YU AND YING HE	685
<b>A survey of <math>L^2</math>-estimates in <math>p</math>-convex geometry</b>	
GUANGSHENG YU	707
<b>Krylov subspace methods for trust-region subproblem and beyond</b>	
LEI-HONG ZHANG AND REN-CANG LI	721