March Meeting 2014

Session Index

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v	CSSIUII	$\boldsymbol{\Delta}$

- A1. Recent Advances in Density Functional Theory I
- A2. Focus Session: Surface Chemistry and Catalysis I
- A3. Undergraduate Research Society of Physics Students I
- A4. Focus Session: Emergent Properties in Bulk Complex Oxides: Iridates I
- A6. Focus Session: Spin-Dependent Physics in Carbon-Based Materials I
- A7. Focus Session: Patterned Magnetic Nanostructures
- A8. Focus Session: Magnetodynamics: Generation and Application
- A10. Focus Session: Mechanics of Cells and Biological Networks I
- A11. Focus Session: Bacterial Biophysics I
- A12. Invited Session: Phase Trasitions in Biology
- A13. Focus Session: Fe based superconductors-Magnetism and Nematicity
- A14. Invited Session: Industrial Applications of Olefin Block Copolymers
- A15. Focus Session: Physics of Sensory Neuroscience
- A16. Focus Session: Continuum Description of Discrete Materials
- A17. Focus Session: Strong Correlations in Systems Far from Equilibrium I
- A18. Soft Glassy Materials
- A19. Focus Session: Theory and Simulations of Macromolecules I Self Consistent Field Theory
- A20. Focus Session: Microfluidics and Nanofluidics I The Physics of Confined Fluids
- A21. Focus Session: Soft Nanoparticles, Block Copolymer Micelles, and Polymersomes I
- A22. Surfaces, Interfaces and Polymeric Thin Films
- A23. Invited Session: Phase Transitions in Classical and Quantum Lattice Models
- A24. Focus Session: Materials for Electrochemical Energy Storage: Characterization and Computation Methods
- A25. Focus Session: Organic Electronics and Photonics Electronic Processes at Interfaces
- A26. Materials at High Pressure: Methods and Superconductors
- A27. Electronic Structure Methods I
- A28. Focus Session: Superconducting Qubits: Design & Tunable Coupling
- A29. Driven, Dissipative Many-body Systems
- A30. Focus Session: Graphene Devices: Fabrication, Characterization and Modeling: Plasmons
- A31. Focus Session: Computational Discovery and Design of New Materials I
- A32. Invited Session: Simulation of Materials: Quantum Computing Meets Classical Computing
- A33. Focus Session: Quantum Foundations: Quantum Theory Meets Relativity
- A34. Focus Session: AMO Quantum Information Processing and Superconducting Qubits:
- **Exploring Interactions of Photons and Qubits**
- A35. Spinor Gases
- A36. Focus Session: Semiconductor Qubits: Optically Addressed Impurities & Quantum Dots
- A37. Focus Session: Graphene on SiC: Growth, Structure and Properties
- A38. Invited Session: Bringing Newcomers into the Physics Community The Importance of Growth and Community Support
 - A39. Invited Session: Order from Disorder in Superfluid 3He in Aerogel
- A40. Invited Session: Interplay Between Geometry, Organization and Function of Fluid Membranes
- A41. Focus Session: Multiferroics and Magnetoelectrics

- A42. Focus Session: Non-equilibrium Effects in Topological Insulators
- A43. Defects in Topological Insulators
- A44. Focus Session: Defects in Semiconductors: PV Materials
- A45. Quantum Hall Effect: Bilayers and Microwave Induced Resistance Oscillations
- A46. Bilayer Graphene: Stacking, Transport and Magnetics
- A47. Superconducting Devices and Applications
- A48. Focus Session: Spin-Dependent Phenomena in Semiconductors: Spin Injection and Transport in Semiconductors
 - A49. Nanostructures: Interaction Effects
- A50. Quantum Dots and Nanocrystals: Optical and Electronic Properties
- A51. Focus Session: Beyond Graphene: Synthesis, Defects, Structure, and Properties I
- A52. Superconductor Insulator Transitions
- A53. Quantum Criticality and Fluctuations in Copper-oxide Superconductors
- A54. Focus Session: Cooperative Phenomena: Spin Waves and Excitations
- A55. Invited Session: Weyl and Dirac Semimetals: From Transport and Chiral Anomaly to Physical Realizations

Session B

- B1. Recent Advances in Density Functional Theory II
- B2. Focus Session: Quantum Control of Molecular, Nano, and Plasmonic Materials I
- B3. Undergraduate Research Society of Physics Students II
- B4. Focus Session: Antiferromagnets on a Triangular Lattice
- <u>B6. Focus Session: Magnetic Oxide Thin Films and Heterostructures: Electric Control of Magnetism in Oxides</u>
- B7. Focus Session: Metalorganic Magnets & Films
- B8. Focus Session: Spin Transfer Torque
- B10. Focus Session: Mechanics of Cells and Biological Networks II
- B11. Focus Session: Teaching at the Intersection of Physics and Biology
- B12. Invited Session: Exploring the Dynamics of Evolution and Ecology of Biological Systems
- B13. Focus Session: Fe-Based Superconductors-1111's,122's
- B14. Invited Session: Trends and Perspectives on Fundamental Polymer Physics
- B15. Bubbles, Interfaces & Porous Media
- B16. Statistical Mechanics of Social Systems
- B17. Focus Session: Packing of Anisotropic Particles
- B18. Focus Session: Liquid Crystals, Nano to Meso Scale Structure in Ordered Matter and
- <u>Liquid Crystal I: Nanocomposites and Smectics</u>
- B19. Focus Session: Theory and Simulations of Macromolecules II From Atomistic to Coarse Grained Models
- <u>B20. Focus Session: Microfluidics and Nanofluidics II Colloidal Hydrodynamics and Active Particles</u>
- B21. Focus Session: Soft Nanoparticles, Block Copolymer Micelles and Polymersomes I
- B22. Focus Session: Organic Electronics and Photonics Polymer Photovoltaics
- B24. Focus Session: Advances in Scanned Probe Microscopy I: Novel Approaches and Ultrasensitive Detection
- B25. Focus Session: OPV Device Physics and Charge Transport
- B26. Materials at High Pressure: Phase Transitions
- B27. Focus Session: Petascale Science and Beyond: Applications and Opportunities for Materials Science I
- B28. Focus Session: Superconducting Qubits: Error Correction & Validation Methods
- B29. Graphene Functionalization and Adsorbates
- B30. Focus Session: Graphene Devices: Fabrication, Characterization and Modeling: Trilayer and Bilayer Graphene: Transport and Stacking
- B31. Focus Session: Computational Discovery and Design of New Materials II

- B32. Invited Session: Thermalization and Prethermalization in Isolated Systems after a Quantum Quench
- B34. Photocatalysis, Proton Conductors and Other Energy Topics
- B35. Fermi Gases
- B36. Invited Session: Visa and Immigration Policies for 21st Century Science
- B37. Focus Session: Graphene Stacking Sequence, Including Twisted Bilayers
- B38. Invited Session: Women and the Manhattan Project
- B39. Invited Session: Silicon-based Quantum Information Processing
- B40. Invited Session: Quantum Foundations
- B41. Focus Session: Ferroelectrics and Anti-Ferroelectrics
- B42. Focus Session: Experiments on Samarium Hexaboride
- B43. Symmetry Protected Topological Phases
- B44. Focus Session: Defects in Semiconductors: Computational Methods
- B45. Topological Quantum Hall Phases
- B47. Superconductors/Ferromagnet Multilayer Structures
- B48. General Magnetism I
- B49. Focus Session: Electron Correlations and Spin Orbit: Iridates
- B50. Semiconductor Nanowires: Optical and Electronic Properties
- B51. Focus Session: Beyond Graphene: Synthesis, Defects, Structure, and Properties II
- B52. Pseudogap Phenomenon in Copper-oxide Superconductors
- B53. Surfaces, Interfaces, and Thin Films: Kinetics and Dynamics
- B54. Focus Session: Cooperative Phenomena: Phase Transitions and Magnetocalorics
- <u>B55. Invited Session: Novel Topological Phases and Surface States in Strongly Interacting Systems</u>

Session C

C1. Poster Session I (14:00 - 17:00)

Session D

- D1. Focus Session: Surface Chemistry and Catalysis II
- D2. Focus Session: Quantum Control of Molecular, Nano, and Plasmonic Materials II
- D3. Undergraduate Research Society of Physics Students III
- <u>D4. Focus Session: Itinerant Frustrated Magnets</u>
- <u>D6. Focus Session: Emergent Properties in Bulk Complex Oxides: Orthochromates and Other Oxides</u>
- D7. Focus Session: Magnetic Anisotropy
- <u>D8. Focus Session: Spin-Dependent Phenomena in Semiconductors: Nitrogen Vacancies in Diamond and Nuclear Spins</u>
- D10. Focus Session: Evolutionary Dynamics and Population Genetics
- D11. Focus Session: Bacterial Biophysics II
- D12. Invited Session: Materials Genome: Theory-Led Accelerated Materials Discovery
- D13. Focus Session: Fe-Based Superconductors-STM, FeSe, Ca10(Pt3As8)(Fe2As2)5
- D14. Invited Session: Algorithms from Statistical Physics and the Physics of Algorithms
- D15. Droplets & Surfaces
- D16. Systems Far from Equilibrium
- D17. Granular Materials & GSNP Student Speaker Session
- D18. Cleverly Creating Colloidal Clusters
- D19. Focus Session: Theory and Simulations of Macromolecules III Ionic Polymers
- D20. Focus Session: Microfluidics and Nanofluidics III Pattern Formation and Droplets
- D21. Polymeric Elastomers and Gels
- D22. Films at Liquid and Solid Interfaces
- D23. Invited Session: Electron-Hole Interaction in Nanoparticles
- D24. Focus Session: Materials for Electrochemical Energy Storage: Battery Materials
- D25. Focus Session: OPV/DSSC Photophysics and Interfaces

- D26. Materials at High Pressure: H plus
- D27. Focus Session: High Performance Computing in Density Functional Theory
- D28. Focus Session: Superconducting Qubits: Gates and Entanglement
- D29. Electrical Transport Properties of Bilayer Graphene
- D30. Focus Session: Graphene Devices: Fabrication, Characterization and Modeling:

Optoelectronic Properties

- <u>D31. Focus Session: Van der Waals Interactions in Complex Materials: Bridging Theory and Experiment I</u>
- D32. Invited Session: Quantum Simulation and Computation with AMO Systems
- <u>D33. Focus Session: Quantum Foundations: What Powers Quantum Advantages for Information Processing?</u>
- D34. Solar Fuels, Biofuels, and PEC
- D35. Focus Session: Superconducting Qubits: Simulation & Annealing
- D36. Focus Session: Semiconductor Qubits: QED Interfaces & Multi-Qubit Coupling
- D37. Focus Session: Carbon Nanotubes: Atom Mobility, Mechanical Response & Adsorption
- D38. Invited Session: Secrecy and Science
- D39. Invited Session: Quantum Anomalous Hall Effect in Magnetic Topological Insulators
- D40. Invited Session: Graphene Spintronics and Magnetism
- D41. Topological Insulators: Engineered Structures I
- D42. Topological Superconductors: Experiment
- D43. Interaction Induced Topological Insulators
- D44. Functional Materials & Devices
- D45. Quantum Hall Effect: Theory
- D47. Theory of Unconventional Superconductivity: Mainly Topical Phases
- D48. Focus Session: Spin Transport and Magnetization Dynamics in Metal-Based Systems:

Phononic and Thermal Phenomena

- D49. Focus Session: Nickelate Heterostructures
- D50. Focus Session: Nanostructrues and Metamaterials: Synthesis, Fabrication, and

Characterization

- D51. Focus Session: Beyond Graphene Devices: Function, Fabrication, and Characterization I
- D52. Optical Probes in Copper-oxide Superconductors
- D53. Surfaces, Interfaces, and Thin Films: 2D Materials
- D54. Structural and Mechanical Properties of Correlated Electron Magnets
- D55. Invited Session: Isakson/ Bouchet/ Apker2 Prize Session

Session E

- E1. Prizes & Awards Ceremonial Session
- E2. Building Your Undergraduate Physics Career
- E3. Welcome Reception
- E4. Special Outreach Session: From Function to Form Matter by Design

Session F

- F1. Focus Session: Surface Chemistry and Catalysis III
- F2. Focus Session: Quantum Control of Molecular, Nano, and Plasmonic Materials III
- F3. Undergraduate Research Society of Physics Students IV
- F4. Focus Session: Frustrated Magnets and Spin-Orbit Coupling
- F6. Focus Session: Spin-Dependent Physics in Carbon-Based Materials II
- F7. Focus Session: Low-D Quantum Spins I
- F8. Focus Session: Magnetism Techniques: Temporal and Spatial Characterization
- F10. Focus Session: Evolutionary and Ecological Dynamics II
- F11. Focus Session: Active Soft Matter I Transport, Biomimetics and Dynamic Response
- F12. Biophysical Dynamics and Locomotion
- F13. Focus Session: Fe Based Superconductors-Orbital Physics
- F14. Invited Session: Delbrueck Prize Session: Chance and Necessity Determinism in the

Physics of Cancer

- F15. Focus Session: Physics of Chromosomes
- F16. Focus Session: Extreme Mechanics: Filaments and their Assemblies, Elasticity and Defects
- F17. Focus Session: Glass Formation and Crystallization in Anisotropic Particles
- F18. Emulsions and Foams
- F19. Focus Session: Theory and Simulations of Macromolecules IV
- F20. Focus Session: Organic Electronics and Photonics Small Molecules
- F21. Focus Session: Polymeric Fibers and Superstructures
- F22. Focus Session: Biological and Bio-inspired Adhesive Polymers I
- F23. Invited Session: Industrial Physics Forum: The Squid at 50: Impact and Future
- F24. Photovoltaics, including Cu, Sulfides, and Si Alloys
- F25. Focus Session: Materials for Electrochemical Energy Storage: Beyond Li-ion
- F26. Focus Session: Materials in Extremes: High Pressures and Temperatures
- F27. Electronic Structure Methods II
- F28. Focus Session: Superconducting Qubits: Coherence & Noise
- F29. Magnetotransport in Graphene
- F30. Focus Session: Graphene Devices: Fabrication, Characterization and Modeling: Graphene Ouantum Dots
- F31. Focus Session: Van der Waals Interactions in Complex Materials: Bridging Theory and Experiment II
- F32. Invited Session: Quantum Communication and Cryptography
- F34. Focus Session: Thermoelectrics Novel Approaches
- F35. Focus Session: Quantum Computing Architectures and Algorithms: Quantum Control
- F36. Focus Session: Semiconductor Qubits: Impurities & Quantum Devices
- F37. Focus Session: Functionalization and Atomic Engineering of Graphene
- F38. Invited Session: Keyhole to the World: Public Access to Satellite Data for Environmental, Security, and Social Ends
- F39. Invited Session: Cold Atomic Gases with Synthetic Spin-Orbit Coupling
- F40. Invited Session: New Magnetoresistance in Metal/Magnetic Insulator Heterostructures
- F41. Focus Session: BiFeO3
- F42. Focus Session: Scanning Tunneling from Topological Insulators
- F43. Topological Superconductivity: Theory
- F44. Focus Session: Defects in Semiconductors: Lighting Materials
- F45. Fractional Quantum Hall Effect: First Landau Level
- F46. Quantum Criticality: Theory and Experiment
- F47. Metal-Insulator and Other Electronic Phase Transitions: Experiment I
- F48. Focus Session: Spin-Dependent Phenomena in Semiconductors: Spins in 2D Systems and II-VI Quantum Dots
- F49. Focus Session: Electricity and Magnetism: Manganites
- F50. Superconductivity: Josephson and Proximity Effects
- F51. Focus Session: Beyond Graphene: Synthesis, Defects, Structure, and Properties IV
- F52. Focus Session: New and Improved Superconducting Materials
- F53. Focus Session: Growth of Metal Clusters and Islands on Surfaces
- F55. Invited Session: Electronic Properties of Twisted Van der Waals heterostructures
- F56. Invited Session: Polymer Physics Prize Symposium

Session G

- G1. Recent Advances in Density Functional Theory III
- G2. Focus Session: Quantum Control of Molecular, Nano, and Plasmonic Materials IV
- G3. Outreach and Diversity
- G4. Focus Session: New Frustrated Materials
- G6. Focus Session: Magnetic Oxide Thin Films and Heterostructures: Strain Effects

- G7. Focus Session: Magnetic Thin Films
- <u>G8. Focus Session: Spin-Dependent Phenomena in Semiconductors: Magnetism in Semiconductors</u>
- G10. Focus Session: Physics of Cancer
- G11. Focus Session: Active Soft Matter II Dynamical Response
- G12. Invited Session: Energy Research and Applications
- G13. Focus Session: Fe-based Superconductors-Pairing Symmetry and Damage
- G14. Invited Session: Toys and Mechanisms
- G15. Membranes: Biological and Synthetic
- G16. Focus Session: Soft Matter Perspectives on Protein Self-Assembly I
- G17. Focus Session: Strong Correlations in Systems Far from Equilibrium II
- G18. Focus Session: Liquid Crystals, Nano to Meso Scale Structure in Ordered Matter and
- Liquid Crystal II: Mostly Smectic and Chromonics
- G19. Polymer Composites
- G20. Focus Session: Theory and Simulations of Macromolecules V
- G21. Physics of Copolymers: Ordering and Application of Block Copolymers
- G22. Focus Session: Padden Award Symposium
- <u>G23. Invited Session: Fuels From Sunlight: Computational Studies of Photo-Electrodes and Catalysts</u>
- <u>G24. Focus Session: Advances in Scanned Probe Microscopy II: High Frequencies and Optical Techniques</u>
- G25. Focus Session: Organic Electronics and Photonics Novel Devices and Fabrication
- G26. Focus Session: Materials in Extremes: Phase Transitions
- G27. Focus Session: Petascale Science and Beyond: Applications and Opportunities for Materials Science II
- G29. Focus Session: Artificial Gauge Fields and Systems with Long Range Interactions I
- G30. Focus Session: Graphene Devices: Fabrication, Characterization and Modeling: Solitons in Few Layer Graphene
- G31. Focus Session: Van der Waals Interactions in Complex Materials: Bridging Theory and Experiment III
- G32. Invited Session: Superconducting Qubits
- G33. Quantum Entanglement I
- G34. Atoms in Reduced Dimensions and Novel Geometries
- G35. Quantum Communication, Decoherence, & Cryptography
- G36. Invited Session: Condensed Matter Physics in China
- G37. Focus Session: Quantum Hall Effect in Graphene
- G38. Invited Session: Graduate Education: Sustaining Thriving Programs by Embracing Challenges and Opportunities in the 21st Century
- G39. Invited Session: Advanced First-Principles Methods for Complex Oxides
- G40. Invited Session: The Physics of Climate
- G41. Focus Session: Flexoelectrics, Electrocalorics and Perovskites on Semiconductors
- G42. Focus Session: Novel Effects in Topological Insulator Films
- G43. Weyl Semimetals: Theory
- G44. Focus Session: Defects in Semiconductors: Characterization
- G45. Fractional Quantum Hall Effect: Second Landau Level
- G46. Ce- and Pu-Based 115 Materials and Related Systems
- G47. Metal-Insulator and Other Electronic Phase Transitions: Theory
- <u>G48. Focus Session: Spin Transport and Magnetization Dynamics in Metal-Based Systems:</u> Skyrmion I
- G49. Focus Session: Manganite and Cuprate Heterostructures
- G50. Focus Session: Plasmon Enhanced Light: Matter Interactions
- G51. Focus Session: Beyond Graphene: Synthesis, Defects, Structure, and Properties V

- G52. Focus Session: Films and Crystals: Understanding Causes of Superconductivity
- G53. Focus Session: Diffusion, Quantum Size Effects, and Growth of Metals, Islands, and Grain Boundaries on Surfaces
- G54. Theoretical Methods in Correlated Electron Magnetism
- G55. Invited Session: Proximity Induced Ferromagnetism in Topological Insulators
- G58. Town Hall Meeting: Open Access and Open Data: What They Mean for APS Journals
- G60. Graduate Student Lunch With The Experts

Session H

H1. Poster Session II (14:00 - 17:00)

Session J

- J1. Recent Advances in Density Functional Theory IV
- J2. Focus Session: Surface Chemistry and Catalysis IV
- J3. History of Physics, Public Policy and National Facilities
- J4. Focus Session: Emergent Properties in Bulk Complex Oxides: Iridates II
- J6. Focus Session: Spin-Dependent Physics in Carbon-Based Materials III
- J7. Focus Session: Molecules on Surfaces & in Devices
- J8. Focus Session: Spin-Dependent Phenomena in Semiconductors: Spin Manipulation and Phenomena in Semiconductors
- J10. Focus Session: Interactions in Biological Systems
- J11. Focus Session: Gene Regulatory Networks in Medicine and Biology
- J12. Focus Session: AFM in Studying Cell Mechanics and Biointerfaces
- J13. Focus Session: ARPES in Fe-Based Superconductors
- J14. Invited Session: Collective Motion Across Scales: From Proteins to Animals
- J15. Focus Session: Phase Transitions and Criticality in Cells
- J16. Focus Session: Soft Matter Perspectives on Protein Self-Assembly II
- J17. Granular Materials
- J18. Liquid Crystals III: Mostly Nematics and Cholesterics
- J19. Focus Session: Theory and Simulations of Macromolecules VI Block Copolymers
- J20. Focus Session: Microfluidics and Nanofluidics IV: Hydrodynamics, Separations and Slip
- J21. Focus Session: Polymers for Energy Storage and Conversion I- Capacitors and Fuel Cells
- J22. Focus Session: Biological and Bio-Inspired Adhesive Polymers II
- J23. Invited Session: Industrial Physics Forum: Frontiers of Physics
- J24. Photovoltaics, including Thermal, LSC, Oxides and Device Physics
- J25. Focus Session: Materials for Electrochemical Energy Storage: Layered Materials and Capacitors
- J26. Focus Session: Materials in Extremes: Energetic Materials
- J27. Focus Session: Computer Simulations of Interactions of Electromagnetic Fields and Nanostructures
- J28. Superconducting Qubits: Topological Effects, Entanglement and EIT
- J29. Glassy & Amorphous Systems, including Quasicrystals
- J30. Physical Review X Q&A Session
- J31. Focus Session: Beyond Graphene: Synthesis, Defects, Structure, and Properties III
- J32. Focus Session: Physics of Proteins I
- J33. Few-body and Cold Molecule Physics
- J34. Focus Session: Hybrid Quantum Devices
- J35. Focus Session: Quantum Computing Architectures and Algorithms: Adiabatic Quantum Computation
 - J36. Focus Session: Semiconductor Qubits: Multi-Spin Gates & Sequence Optimization
- J37. Focus Session: Graphene Growth on Cu Substrates
- J38. Invited Session: Research and Opportunties at the DOE Nanoscaled Science and Research Centers
- J39. Invited Session: Transport, Superconductivity, and Magnetism at the LAO/STO Interface

- J40. Invited Session: Superconductivity and Magnetism of Iron-based Superconductors II
- J41. Topological Insulators: Experimental Tuning and Extreme Conditions
- J42. Majorana Fermions in Nanowires
- J43. Interaction Effects in Topological Insulators: Theory
- J44. MEMS, NEMS, and Mechanical Properties
- J45. Semiconductor Electronic Structure: Thermodynamic & Optical Properties
- J46. Ce- and Yb-based Heavy-Fermion and Non-Fermi Liquid Systems
- J47. Metal-Insulator and Other Electronic Phase Transitions: Computational
- J48. Focus Session: Spin Transport and Magnetization Dynamics in Metal-Based Systems:

Skyrmion II

- J49. Focus Session: Metal-Metal Bonding: Vanadates and Niobates
- J50. Focus Session: Graphene Plasmonics
- J51. Focus Session: Beyond Graphene Devices: Function, Fabrication, and Characterization II
- J52. Superconductors Phonons and Electrons
- J53. Structure and Properties of Oxide Surfaces
- J54. Mott Insulators and Fermi Fluids
- J55. Invited Session: Buckley / McGroddy / Adler / IUPAP YSP/ Nicholson Prize Session
- J56. Invited Session: Dillon Medal Symposium

Session K

- K0. Meet the APS Editors Reception
- **K1. DCP Business Meeting**
- K4. GMAG Business Meeting
- K10. DBIO Business Meeting
- K11. The Status of NSF-DMR in FY14
- K16. GSNP Business Meeting
- **K21. DPOLY Business Meeting**
- K24. GIMS Business Meeting
- K25. GERA Business Meeting
- K26. GSCCM Business Meeting
- **K27. DCOMP Business Meeting**
- K36. GQI Business Meeting
- K44. FIAP Business Meeting
- K51. Student Reception, Awards Ceremony, and Dance Party
- K60. DCMP Business Meeting
- K61. DMP Business Meeting

Session L

- L1. Recent Advances in Density Functional Theory V
- L2. Focus Session: Surface Chemistry and Catalysis V
- L3. Focus Session: Solvation, Dynamics, and Reactivity in Complex Environments I
- L4. Focus Session: Quantum Spin Liquids
- L6. Focus Session: Emergent Properties in Bulk Complex Oxides: Manganites
- L7. Focus Session: Dynamics and Symmetries of Magnetic Domain Walls
- L8. Focus Session: Spin-Dependent Phenomena in Semiconductors: Spin-Orbit Coupling in 1D and 2D Systems
- L10. Focus Session: Single Molecule Studies of Enzymes
- L11. Focus Session: Physics of Proteins II
- L12. Invited Session: The Physics of Cell Division
- L13. Focus Session: Fe Based Superconductors-Pairing Symmetry
- L14. Invited Session: Understanding Ion Containing Polymer Systems using Computer Simulations
- L15. Focus Session: Inferring Physical Models from Noisy Biological Data
- L16. Focus Session: Extreme Mechanics: Origami and Structural Metamaterials

- L17. Focus Session: Friction and Adhesion
- L18. Vesicles and Membranes
- L20. Focus Session: Dynamics of Glassy Polymers under Nanoscale Confinement I
- L21. Focus Session: Polymers for Energy Storage and Conversion II Photovoltaics
- L22. Focus Session: Directed Assembly of Hybrid Materials I Crystallization and Multicomponent Systems
- <u>L23. Invited Session: Industrial Physics Forum: Physics and Industrial Applications of Optoelectronics</u>
- L24. Focus Session: NanoPV Novel Photophysics and Transport I
- L25. Focus Session: Thermoelectric Materials
- L26. Focus Session: Materials in Extremes: High-Strain-Rate Phenomena I
- L27. Electronic Structure Methods III
- L28. Tutorial for Authors and Referees
- L29. Electronic and Valleytronic Properties of Graphene
- L30. Graphene Devices: Fabrication, Characterization and Modeling: Nanomechanics
- L31. Focus Session: Computational Discovery and Design of New Materials III
- L32. Invited Session: Magnetism in Quantum Gasses
- L34. Superconducting Qubits: Two-level Systems & Decoherence
- L35. Focus Session: Quantum Computing Architectures and Algorithms: Quantum Error Correction
- L36. Focus Session: Semiconductor Qubits: Relaxation, Decoherence, and Realistic Devices
- L37. Focus Session: Vacancy and Grain Boundary Effects in Graphene
- L38. Invited Session: History of the Communication of Science to the Public
- L39. Invited Session: Interplay between Charge Order and Superconductivity in Cuprates
- L40. Invited Session: New Horizons for Magnetism and Competing Phases in Heavy Fermions
- L41. Focus Session: Local Ionic Dynamics and Domain Walls in Oxides
- <u>L42</u>. Focus Session: Topological Insulators: Spin Textures
- L43. Metals I
- L44. Focus Session: Defects in Semiconductors: Nano Materials
- L45. Semiconductor Electronic Structure: Theory & Spectra I
- L46. Heavy Fermions and Non-Fermi Liquids: Theory
- L47. Metal-Insulator and Other Electronic Phase Transitions: Experiment II
- <u>L48. Invited Session: Light-matter Interaction in Valleytronic Materials and Topological</u> Insulators
- L49. Focus Session: Spectrocopy, Magnetism, and Transport at LaAlO3/SrTiO3 Interfaces
- L50. Focus Session: Quantum Plasmonics, Metamaterials, and Nanocrystals
- L51. Focus Session: Beyond Graphene Devices: Function, Fabrication, and Characterization III
- L52. Focus Session: Superconductivity, Vortex Matter I
- L53. Focus Session: Molecular Adsorption and Metal and Oxide Film Growth
- L54. Meet the APS Editors Coffee Break

Session M

- M1. Recent Advances in Density Functional Theory VI
- M2. Focus Session: Charge & Energy Transfer I
- M3. Physics Education
- M4. Focus Session: Pyrochlore magnets: spin ice and spin liquid
- M6. Focus Session: Magnetic Oxide Thin Films and Heterostructures: Ferroelectric Effects
- M7. Focus Session: Molecular Nanomagnets
- M8. Focus Session: Spin Hall Effect and Related Phenomenon
- M10. FIAP Prize Session: Beyond Academia: Personal Journeys of Successful Physics Careers in Industry
- M12. Invited Session: The Impact of Heterogeneous High Performance Computing Platforms on Computational Physics

- M13. Focus Session: Fe-based Superconductors-Optical properties
- M14. Invited Session: Physics for Everyone
- M16. Focus Session: Computational Studies of Thermoelectric Materials
- M17. Fracture and Other Problems in Statistical Physics
- M18. Rheology & Phases of Complex Colloidal Systems
- M21. Focus Session: Beyond Graphene Devices: Function, Fabrication, and Characterization IV
- M22. Hydrogen Storage, Transportation & Novel PV
- M23. Invited Session: Industrial Physics Forum: Advances in Measurement Technology
- M24. Focus Session: NanoPV Novel Photophysics and Transport II
- M25. Focus Session: Thermoelectrics Phonons and Heat Conduction I
- M26. Focus Session: Materials in Extremes: High-Strain-Rate Phenomena II
- M27. Focus Session: Petascale Science and Beyond: Applications and Opportunities for
- Materials Science III
- M28. Superconducting Qubits: Measurement & Photodetection
- M29. Quench dynamics
- M30. Focus Session: Graphene Devices: Fabrication, Characterization and Modeling: Sensing using 2D Materials
- M31. Focus Session: Computational Discovery and Design of New Materials IV
- M32. Invited Session: Semiconductor Qubits
- M33. Invited Session: Postdocs and the Application Process
- M34. Focus Session: AMO Quantum Information Processing: Ion Trapping Technologies
- M35. Spin-orbit Coupling and the BEC-BCS Crossover
- M36. Superconducting Qubits: Fabrication & Materials
- M37. Focus Session: Graphene on Cu and Other Metal Substrates
- M38. Invited Session: The Keithley Award Session: Submolecular Resolution and Exchange
- Force Measurements Using Atomic Force Microscopy with Quartz Cantilevers
- M39. Invited Session: SmB6: A Possible Topological Kondo Insulator
- M40. Invited Session: Onsager / Lilienfeld / UG Inst / Apker 1 Prize session
- M41. Topological Superconductors: Bulk and Interfaces
- M42. Spectroscopy of Topological Insulators
- M43. Electronic Structures of Insulators and Superconductors
- M44. Focus Session: Defects in Semiconductors: Oxides
- M45. Semiconductor Electronic Structure: Theory & Spectra II
- M46. Hidden Order, URu2Si2 and Other U-Based Heavy-Fermion Systems
- M47. Metal-Insulator and Other Electronic Phase Transitions: Experiment III
- M48. Invited Session: Advances in Correlated Electron Systems
- M49. Focus Session: Oxide Thin Films: Growth and Properties
- M50. Nanostructures and Metamaterials
- M51. Focus Session: Beyond Graphene: Synthesis, Defects, Structure, and Properties VI
- M52. ARPES in Copper-oxide Superconductors
- M53. Surfaces, Interfaces and Thin Films: Electronic Structures and Size Effects

Session P

- P1. Poster Session III (11:15 14:30 DPOLY, DCP, DBIO, GSNP)
- Session Q
- O0. Meet Your Future: Industrial Careers for Physicists
- Q1. Focus Session: Charge & Energy Transfer II
- Q2. Focus Session: Surface Chemistry and Catalysis VI
- Q3. Focus Session: Solvation, Dynamics, and Reactivity in Complex Environments II
- Q4. Focus Session: Pyrochlore Magnets: Ordering and Freezing
- Q6. Focus Session: Emergent Properties in Bulk Complex Oxides: Fe-Oxide and Hexaferrite
- Q7. Focus Session: Magnetic Domains and Domain Walls

- Q8. Focus Session: Spin Wave Phenomena and Spin Pumping and Damping
- Q10. Focus Session: Evolution, Co-evolution, and Game Theory
- Q11. Nucleic Acids: Structure, Analysis, and Interaction with Proteins
- Q12. Invited Session: Irreversibilty and Entropy Production in Biological Dynamics
- Q13. Focus Session: Fe-based Superconductors-STM and Neutrons
- Q14. Invited Session: Physics of Proteins: New Insights on Hydrogen Bonding and Proton Transfer
- Q15. Pattern Formation & Nonlinear Dynamics
- Q16. Extreme Mechanics: (more) Toys, Theory, and Fluid-Structure Interaction
- Q17. Focus Session: Network of Networks
- Q18. Disordered and Glassy Systems I
- Q19. Focus Session: Theory and Simulations of Macromolecules VII Chain Conformation
- Q20. Focus Session: Organic Electronics and Photonics Charge Transport
- Q21. Focus Session: Polymers for Energy Storage and Conversion III Ion Transport
- Q22. Focus Session: Directed Assembly of Hybrid Materials II
- O23. Invited Session: Dynamics of Fluids at Interfaces
- Q24. Novel Instrumentation and Measurements for Biomedical Research
- Q25. Focus Session: Thermoelectrics: Controlling Spin
- Q26. Focus Session: Materials in Extremes: Reactive Chemistry
- Q27. Focus Session: Electron-hole Interaction in Nanoparticles
- Q28. Focus Session: Superconducting Qubits: Trajectories & Measurement
- Q29. Graphene Defects and Functionalization
- O30. The Physics of Climate
- Q31. Graphene: Raman Spectroscopy and Phonons
- Q32. Invited Session: Quantum Computing Architectures
- Q33. Quantum Entanglement II
- O34. Bose Gases
- Q35. Focus Session: Hybrid Quantum Systems
- Q36. Topological Quantum Information
- Q37. Focus Session: Beyond Graphene Devices: Function, Fabrication, and Characterization V
- Q38. Superconducting Qubits: Amplifiers & Readout
- Q39. Superconductivity: Sr2RuO4 and Related Materials
- Q40. Invited Session: Cell Motility in Three-Dimensions
- Q41. Focus Session: Complex Oxide Thin-Film Growth
- Q42. Focus Session: Topological Materials, Synthesis and Characterization
- Q43. Metals II
- Q44. Materials: Synthesis, Growth, & Processing
- Q45. Bionanotechnology and Applications of Polymers and Biomaterials
- Q46. Strongly Correlated Electron Systems: Hubbard Model and other Many Body Theories
- Q47. Magnetic Oxides, V2O3 and Related: Experiment
- Q48. Superconductivity: Material and Properties
- Q49. Focus Session: Conductivity and Its Control at LaAlO3/SrTiO3 Interfaces
- Q50. Photonic Structures and Semiconductor Lasers
- Q51. Focus Session: Beyond Graphene: Synthesis, Defects, Structure, and Properties VII
- Q52. Physical Properties of Copper-oxide Superconductors
- Q53. Surfaces, Interfaces, and Thin Films: Molecules on Surfaces
- Q57. The Fred Kavli Special Symposium: The Many Electron Problem -- Where are we now? Session R
- R10. Report on NSF Workshop on Challenges and Opportunities of Polymer and Soft Matter Theory and Simulation
- R11. Town Hall Meeting on High Magnetic Field Sciences
- R40. GPC Business Meeting

- R41. ``App-y" Hour
- R46. NSBP Networking Session
- R47. LGBT Roundtable Discussion: Meet-up and Mentoring Discussion
- R48. Special Evening Event Hosted by the Editors of Physics
- R49. Diversity Networking Reception
- R50. A Staged Reading of the Play: W=S:Transistor Shock
- R51. Rock 'n Roll Physics Sing Along (Listening-Along Encouraged)

Session S

- S1. Focus Session: Charge & Energy Transfer III
- S2. Focus Session: Solvation, Dynamics, and Reactivity in Complex Environments III
- S3. Focus Session: Intracellular Organization
- S4. Focus Session: Kagome Antiferromagnets I
- S6. Focus Session: Magnetic Oxide Thin Films and Heterostructures: Interface Effects
- S7. Focus Session: Low-D Quantum Spins II
- S8. Focus Session: Spin-Dependent Transport, Tunneling, and Spin Torque
- S10. Focus Session: Confined Nucleic Acids I
- S11. Focus Session: Physics of Proteins III
- S12. Invited Session: Impacts of Physics Research on the Economy
- S13. Focus Session: Fe Based Superconductors-DFT and Pressure Effect
- S14. Invited Session: Dynamics of Polymers at Interfaces and in Confinement
- S15. Focus Session: Active Soft Matter III Soft, Self-Propelled Particles
- S16. Extreme Mechanics: Morigami, Metamaterials, and Elasticity
- S17. Avalanches and Rearrangements during Shear
- S18. Disordered and Glassy Systems II
- S19. Focus Session: Thin Films of Block Copolymers and Hybrid Materials I Solvent Vapor Annealing
- S20. Polymer Glasses
- S21. Focus Session: Polymer Nanocomposites I Active Particles and Dynamics
- S22. Charged and Ion-Containing Polymers
- S23. Invited Session: Industrial Physics Forum: Frontiers of Nanomaterials and Interfaces
- S24. Detectors, Sensors, and Transducers
- S25. Focus Session: Thermoelectrics Phonons and Heat Conduction II
- S26. Focus Session: Materials in Extremes
- S27. Quantum Many-Body Systems I
- S32. Invited Session: Topological Quantum Information and Phases of Matter
- S33. Focus Session: Artificial Gauge Fields and Systems with Long Range Interactions II
- S34. Focus Session: AMO Quantum Information Processing: Photons and Atoms
- S35. Vortices, Solitons, and Driven Systems
- S36. Focus Session: Semiconductor Qubits: Device, Control, and Measurement System Engineering
- S37. Focus Session: Carbon Nanotubes: Diameter, Wall & Chirality Control
- S38. Invited Session: Assessment Issues in Physics Education
- S39. Invited Session: Artificial Spin Ice and Artificial Frustrated Systems: Desiging Topology, Controlling Frustration, Engineering Emergence
- S40. Invited Session: Spin Current and Magnetization Dynamics--Pure Spin Current Generation and Transport
 - S41. Focus Session: Hexagonal Manganites and Ferrites and Perovskite Stannates
 - S42. Focus Session: New Topological Materials
- S43. Weyl Semimetals: Theory and Experiment
- S44. Focus Session: Defects in Semiconductors: Defects Engineering
- S45. Semiconductors: Thermodynamic & Transport Properties I
- S46. Organic Conductors and Related Topics

- S47. Low Temperature Properties of He3
- S48. Invited Session: Multi-orbital Effects and Pairing Symmetry in Iron-Based Superconductors
- S49. Focus Session: Oxide Surfaces, Oxygen Vacancies/Disorder, Doped SrTiO3
- S50. Focus Session: Mesoscopic Materials and Devices I
- S51. Focus Session: Beyond Graphene Devices: Function, Fabrication, and Characterization VI
- S52. Focus Session: Supercondcutivity, Vortex Matter II
- S53. Focus Session: Electron, Ion, and Exciton Transport in Nanostructures I

Session T

- T1. Focus Session: Physics of Behavior I
- T2. Surfaces, Nanoparticles, and Materials
- T3. Spectroscopy and Structure
- T4. Focus Session: Kagome Antiferromagnets II
- T6. Focus Session: Emergent Properties in Bulk Complex Oxides: Titanates and Ruthenates
- T7. Focus Session: Magnetic Nanoparticles
- T8. Focus Session: Spin-Dependent Phenomena in Semiconductors: Spin Hall Effect and

Topological Insulators

- T10. Focus Session: Confined Nucleic Acids II
- T11. Focus Session: Systems Biology
- T12. Invited Session: Functional Dynamics of Proteins from Physics to Biology
- T13. Focus Session: Fe-Based Superconductors-STEM,11's, Various
- T14. Invited Session: Novel Nonlinear Spectroscopic Techniques for Understanding Material Structure and Function
- T15. Focus Session: Active Soft Matter IV- Locomotion and Collective Behavior
- T16. Focus Session: Extreme Mechanics: Buckling, Wrinkling, and Poking
- T17. Focus Session: Jamming and the Glass Transition
- T18. Colloids: Charged, Clustered, and/or Sticky
- T19. Focus Session: Thin Films of Block Copolymers and Hybrid Materials II Directed Self Assembly
- T20. Focus Session: Organic Electronics and Photonics Photophysics
- T21. Focus Session: Polymer Nanocomposites II Dynamics
- T22. Focus Session: Dynamics of Glassy Polymers under Nanoscale Confinement II
- T23. Invited Session: Industrial Physics Forum: Device Physics at the Nanoscale
- T24. Focus Session: Advances in Scanned Probe Microscopy III: Scanning Probes

Spectroscopic Techniques

- T25. Focus Session: Thermoelectrics Nanomaterials
- T26. Classical Monte Carlo and Molecular Dynamics Methods
- <u>T27. Focus Session: Heterogeneous High Performance Computing Platforms on Computational Physics</u>
- T32. Invited Session: Synthetic Matter with Long-Range Interactions
- T33. Focus Session: Quantum Foundations: Interpretations, Contextuality, and Nonlocality
- T34. Focus Session: Superconducting Qubits: 3D & Resonators
- T35. Focus Session: Quantum Computing Architectures and Algorithms: Quantum Algorithms
- T36. Focus Session: Semiconductor Qubits: Magnetic Control & Nuclear Dynamics
- T37. Focus Session: Carbon Nanotube Transport
- T38. Invited Session: Reichert Award Session: Preparing Students for the Transition from Instructional to Research Lab
- T39. Invited Session: Collective Phenomena in Two-Dimensional Atomic Crystals and Their Heterostructures
- T40. Invited Session: Collective Excitations in Cuprates
- T41. Focus Session: Piezoelectrics, Relaxors and Tunable Dielectrics
- T42. Physical Properties of Topological Insulators

- T43. Nanoscale Effects in Topological Insulators
- T44. Optical/Laser & High Frequency Devices & Applications
- T45. Semiconductors: Thermodynamic & Transport Properties II
- T46. Charge Density Waves
- T47. Solid He4 and Other Quantum Solids
- T48. Invited Session: Single Molecule Magnets
- <u>T49. Focus Session: Oxide Interfaces Defects & Stoichiometry, Rashba and Spin-Orbit, Competing Phases</u>
- T50. Focus Session: Mesoscopic Materials and Devices II
- T51. Focus Session: Beyond Graphene: Synthesis, Defects, Structure, and Properties VIII
- T52. Superconductivity at Mesoscopic and Nanometer Scales
- T53. Focus Session: Electron, Ion, and Exciton Transport in Nanostructures II Session W
- W1. Focus Session: Charge & Energy Transfer IV
- W2. Focus Session: Solvation, Dynamics, and Reactivity in Complex Environments IV
- W3. Multi-cellular Processes and Development
- W4. Focus Session: Domain Dynamics
- <u>W6. Focus Session: Emergent Properties in Bulk Complex Oxides: Strongly Spin-Orbit Coupled Systems</u>
- W7. Focus Session: Molecule-Based Magnets
- W8. Focus Session: Ferromagnetic Resonance and Damping
- W10. Focus Session: Physics of Behavior II
- W11. Assembly and Function of Biomimetic and Bioinspired Materials
- W12. Invited Session: Active Matter and the Cytoskeleton
- W13. Focus Session: Fe-Based Superconductors-Moments/Fluctuations/NMR
- W14. Invited Session: Patterns in Polymers: Elasticity, Fluids, and Surfaces
- W15. Instabilities & Turbulence
- W16. General Statistical and Nonlinear Physics I
- W17. Jamming and the Glass Transition
- W18. Colloidal Particles at Interfaces
- W19. Focus Session: Thin Films of Block Copolymers and Hybrid Materials III Surface,

Wetting, and Confinement Interactions

- W20. Focus Session: Membranes and Confinement
- W21. Polymer Melts and Solutions
- W22. Focus Session: Dynamics of Polymers Under Nanoscale Confinement III
- <u>W23. Invited Session: Industrial Physics Forum: Panel Discussion: Industrial Innovation: An</u> Intersection Among Industry, Academia and Government
- W24. Scattering and Diffraction
- W25. Focus Session: Organic Electronics and Photonics Thermoelectric Properties of Polymers
- W26. Focus Session: Explicitly Correlated Methods and Quantum Few-Body Systems
- W27. Quantum Many-Body Systems II
- W32. Invited Session: Quantum Mechanics Applied to Biophysical Problems
- W33. Cold Quantum Gases
- W34. Topological Systems and Quantum Dynamics
- W35. Focus Session: Quantum Computing Architectures and Algorithms: Characterization, Verification, & Validation
- W36. Invited Session: Panel Discussion: Increasing the Participation of Women in Physics--
- The Conferences for Undergraduate Women in Physics (CUWiP)
- W37. Focus Session: Carbons Nanotubes: Towards More Complex Circuits
- W38. Invited Session: 20th Century Chinese Physicists and Physics
- W39. Invited Session: Emergent Symmetries in Magnetic and Ferroelectric Systems

- W40. Invited Session: Electronic Correlations in Unconventional Superconductors
- W41. Topological Order
- W42. Focus Session: Magnetic Topological Insulators
- W43. Topological Insulators: New Materials Predictions
- W44. Graphene and Carbon Nanotubes: Functionalization and Sensing Applications
- W45. Graphene: Functional Interfaces
- W46. Interacting Electron Systems: Theory
- W47. Superfluid He4 and Other Quantum Liquids
- W48. Invited Session: Exotic Phase Transitions in 5d Compounds
- W49. Focus Session: Titanate Interfaces, Layered Materials
- W50. Focus Session: Mesoscopic Materials and Devices III
- W51. Focus Session: Beyond Graphene Devices: Function, Fabrication, and Characterization VII
- W52. Superconductivity: General Theory
- W53. Focus Session: Electron, Ion, and Exciton Transport in Nanostructures III

Session Y

- Y1. Focus Session: Solvation, Dynamics, and Reactivity in Complex Environments V
- Y2. Focus Session: Charge & Energy Transfer V
- Y4. Focus Session: Frustrated and Low-Dimensional Magnets
- Y6. Focus Session: Magnetic Oxide Thin Films and Heterostructures: Oxide Films and Nanoparticles
- Y7. Focus Session: Magnetic Structures: Novel Mechanisms and Experimental Exploration
- Y8. Focus Session: Spin-Dependent Phenomena in Semiconductors: Spin and Noise in Ouantum Dots
- Y10. Emerging Biophysical Techniques
- Y11. Focus Session: Physics of Proteins IV
- Y12. Invited Session: Novel Modeling Approaches to Cell Motility
- Y13. Focus Session: Fe Based Superconductors-Correlation Effects
- Y14. Invited Session: Dynamics of Polymer Nanocomposites
- Y15. Stellar & General Fluid Dynamics
- Y16. Complex Networks and their Applications I
- Y17. Flow Near Jamming
- Y18. Self- and Directed Assembly
- Y19. Polymer Blends
- Y20. Semi Crystalline Polymers
- Y21. Elastic Instabilities and Pattern Formation
- Y23. Invited Session: Quantum Bath Engineering with Superconducting Circuits
- Y24. Instrumentation and Measurements
- Y25. Focus Session: Thermoelectrics Organic and Nanomaterials
- Y26. Focus Session: Modeling of Rare Events
- Y27. Quantum Many-Body Systems III
- Y32. Invited Session: Recent Developments in the Kibble-Zurek Problem
- Y33. Fundamental Issues in Quantum Theory
- Y34. Nano/Optomechanics for Quantum Information Processing
- Y35. Thermalization and Many-Body Localization
- Y36. Optical Cavites and Optomechanics
- Y37. Carbon Nanotube Optical Properties
- Y38. Invited Session: Quantitative Biomedical Imaging
- Y39. Invited Session: Emergent States Driven by Spin-Orbit Coupling
- Y40. Invited Session: New Views of Thermal Transport
- Y41. Topological Insulators Under Extreme Conditions Theory
- Y42. Dielectrics: Optical and Bulk Properties

- Y43. Topological Insulators: Engineered Structures II
- Y45. Graphene Terahertz Optics and Strain Engineering
- Y46. Focus Session: Superconductivity, Vortex Matter-III; Unconventional Structures and Fransport
- Y47. Theory of Strongly Correlated Superconductivity
- Y48. Invited Session: Spin Transport in Novel 2d Electronic Systems
- Y49. Focus Session: Oxide Tunnel Junctions, Metal-Ferroelectric Interfaces, A-site Ordering
- Y50. Nanoparticle Plasmonics
- Y51. Focus Session: Beyond Graphene Devices: Function, Fabrication, and Characterization VIII
- Y52. Competing Orders and Phase Diagrams in Copper-oxide Superconductors
- Y53. Focus Session: Electron, Ion, and Exciton Transport in Nanostructures IV Session Z
- Z2. Condensed-Phase Dynamics, Solvation, and Statistical Mechanics
- Z4. Focus Session: Magnetization Plateaus and Quantum Phase Transitions
- Z6. Focus Session: Magnetic Oxide Thin Films and Heterostructures: Manganite Thin Films
- Z7. Focus Session: Magnetostructural Properties of Materials
- Z8. Focus Session: Spin-Dynamics: Theory and Experiment
- Z12. Invited Session: Application of Synchronization in the Micro and Macro World
- Z13. Focus Session: Fe-based Superconductors-Nematicity
- Z16. General Statistical and Nonlinear Physics II
- Z17. Complex Networks and their Applications II
- Z18. Non-spherical Colloids and Complex Fluids
- Z19. Supercooled Polymer Liquids and Glasses
- Z20. Focus Session: Organic Electronics and Photonics Photonic and Electronic Properties
- Z21. Polymer Composites: Nanocomposites
- Z24. Neutron, Light, and X-ray Optics and Sources
- Z25. Focus Session: Thermoelectrics Phonons and Heat Conduction III
- Z26. Novel Technologies and Algorithms
- Z27. Focus Session: Friction and Wear at the Nano- and Micro-Scales
- Z35. The Bose-Hubbard Model
- Z36. Technological Applications in AMO Physics
- Z37. Carbon Nanofoams and Composites
- Z39. Invited Session: Strongly Correlated Electron Systems, Transition Metal Oxides, Vanadates
- Z40. Invited Session: Unconvential Superconducting Pairing in Heavy Fermion Materials
- Z46. Theory of Majorana States in Superconductors
- Z47. Superconductivity: Pseudogap, Fluctuations, Anisotropy
- Z48. Graphene Transport: Role of Defects and Interfaces
- Z49. Focus Session: Ferroelectric, Multiferroic and Polar Oxide Heterostructures
- **Z50**. Plasmonics and Metamaterials
- Z52. Superconductivity: Tunneling Phenomena
- Z53. Surfaces, Interfaces, and Thin Films: Growth, Processing, and Characterization