2026 年度物理学系学术年会暨博士生论坛

2026 年 5 月 31 日（周日）江湾校区物理科研楼 C108 会议室

时间	内容	报告人 / 发言人
8:00–8:30	注册	
8:30–8:35	开幕式暨系领导致辞	吴义政
8:35–8:45	捐赠纪念牌颁发仪式	上海启光自然科学发展基金会
8:45–8:50	嘉宾致辞	上海启光自然科学发展基金会领导
第一场（主持人：李世燕）		
8:50–9:15	邀请报告（*Superconducting Bilayer Nickelate Thin Films*）	於逸骏
9:15–9:40	邀请报告（光晶格中的门电路与可编程量子模拟）	朱子杰
9:40–10:05	邀请报告（极化激元腔量子电动力学）	张帅
10:05–10:30	邀请报告（*Quantum Monte Carlo Studies of Interaction-Driven Phases in Two-Dimensional Quadratic Band Touching Systems*）	刘子宏
10:30–10:50	茶歇 + 合影	
第二场（主持人：季索清）		
10:50–11:15	邀请报告（*Discovery of Universal Phonon Thermal Hall Effect in Crystals, and an Anomalous One in Altermagnets*）	李世燕
11:15–11:40	邀请报告（*Learning to Predict Superconductivity and Topological Materials*）	王靖
11:40–11:55	博后/博士生报告（*Ferromagnet-like Binary Switching in Layered Antiferromagnets*）	王占山（吴施伟课题组）
11:55–12:10	博后/博士生报告（基于对偶对称性的复杂晶格构建）	方煌（谭鹏课题组）
12:10–14:00	午餐（盒饭、餐券）+ 海报展示	

时间	内容	报告人 / 发言人
第三场（主持人：张鹏飞）		
14:00–14:25	邀请报告（缺陷、反常与纠缠：量子场论中的普适结构）	周洋
14:25–14:50	邀请报告（跨尺度研究星系演化的物理驱动机制）	沈璐
14:50–15:05	博后/博士生报告（相对论重离子碰撞中的长程结构研究）	刘鹿蒙（黄旭光课题组）
15:05–15:25	茶歇	
第四场（主持人：周洋）		
15:25–15:50	邀请报告（*Wigner Crystal Formed by Spontaneously Transferred Electrons at a 2D Interface*）	高春雷
15:50–16:05	博后/博士生报告（分数量子铁电与交错磁性耦合）	东茂强（龚新高课题组）
16:05–16:20	博后/博士生报告（腔增强相干拉曼显微成像研究探索）	贺英杰（季敏标课题组）
16:20–19:00	晚餐 + 海报展示	
第五场（主持人：邵鼎煜）		
19:00–19:25	邀请报告（无限层镍基超导的电子结构与相图）	彭瑞
19:25–19:50	邀请报告（*Stabilizer Rényi Entropy in SYK-like Models*）	张鹏飞
19:50–20:05	博后/博士生报告（*Observation of Giant Nonlinear Valley Hall Effect*）	张敏（沈健课题组）
20:05–20:20	博后/博士生报告（*Signatures of Ferromagnetism and Spin-Triplet Superconductivity in a High-Temperature Nickelate*）	张若舟（王熠华课题组）
20:20–20:30	海报奖颁奖	吴义政、刘召伟
20:30–20:40	闭幕式致辞	刘召伟
20:40–21:00	Happy Discussions	

海报展示列表

编号	海报题名	姓名
一、理论与计算物理（33 篇）		
6	Symmetry Adapted Analysis of Screw Dislocation: Electronic Structure and Carrier Recombination Mechanisms in GaN	Shi, Haozhe
7	Fractional Quantum Multiferroics from Coupling of Fractional Quantum Ferroelectricity and Altermagnetism	东茂强
8	A 2D-CFT Factory: Critical Lattice Models from Competing Anyon Condensation in SymTO	Zhao, Yu
16	Distinguishing Coherent and Incoherent Errors in Multi-Round Time-Reversed Dynamics via Scramblons	刘泽宇
17	Many-Body Physics from Spin-Phonon Coupling in Rydberg Atom Arrays	张硕
21	conformal operator flows of deconfined quantum criticality	Yang, Shuai
24	Dual-Zero-Scattering in Diffusive Transport	ZHANG, YIYANG
25	Invisible Hydrodynamic Sensing via Metamaterial Shells Optimized by Machine Learning	Li, Yajuan
27	Thermal inverter: Negative-thermal-coupling mechanism for ambient-temperature counteraction	Zhang, Lili
36	Emergent universality class in dissipative quantum systems with dipole symmetry	周文博
38	Spin-Valley-Orbital Triple-Locked: Unifying Quantum Anomalous Hall, Spin Hall, and Orbital Hall Effects in MX12 monolayer	张洪国
41	Fracton Phase Transition via Non-Abelian P-loop Condensation — A Cage-Net Model Realization	Wang, Yifei
42	Emergence of topological multifold/crystalline kink states with even-spin-Chern insulators	李智健

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43	Pseudoconformal mapping: Unifying insulating and zero-index carpet cloaks for thermal-wave manipulation	Zhao, Yuqian
44	Microscopic Mechanisms of Gilbert Damping in Transition Metals	Zhou, Xiang-ming
47	Van der Waals stacking-induced diverse topological phases in higher-order topological insulators	徐文婷
48	Enhancing Neural Network Variational Monte Carlo through Basis Transformation	Liu, Zhixuan
50	Nonlinear Symmetry Fragmentation of Nonabelian Anyons in symmetry-enriched topological phases	傅年睿
54	Reinterpreting diffusive constraints: Concentration cloaking via homogenization and pseudoconformal mapping	Zhao, Yuqian
63	Intrinsic Breakdown Strength: Theoretical Derivation and First-Principles Calculations	刘时旭
75	Diverse quantum anomalous Hall effects with high Chern numbers in buckled honeycomb lattices	Yi, Jiawei
77	Restricted Boltzmann machine as a probabilistic Enigma	Chen, Bin
80	Bose-Einstein Condensates of Microwave-Shielded Polar Molecules	Jin, Weijian
84	Double Supersolid Phase in a Bosonic t-J-V Model with Rydberg Atoms	Kuangjie, Chen
87	Fault-tolerant Quantum Computing with a microwave Cat Bus	于鑫阳
88	First-Principles Calculations and Microscopic Mechanism Study of Superconducting Vortex Pinning	Shi, Haozhe
108	Emergence of Triplet Superconductivity from Cavity Vacuum Fluctuations	Yang, Xin-Xin
110	Revisiting quadratic band crossing: from interaction-driven instability to intrinsic topology	Jiang, Yadong
117	Kitaev interaction and possible spin liquid state in CoI2 and Co2/3Mg1/3I2	马曜峥行

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128	Synchronization Enhancement by Dissipative Coupling	曾祥山
130	Electromagnetic response of disordered superconductors with finite-momentum pairing	Huang, Linghao
138	Finite-Size Scaling of the Full Eigenstate Thermalization in Quantum Spin Chains	张煜可
141	NCT Magnet Enables High-Temperature Ferromagnetism and Giant Topological Transport	周宇轩
二、粒子物理与核物理（7 篇）		
10	Decoherence in high energy collisions as renormalization group flow	Lin, Shi-Jia
13	Multi-entropy from Linking in Chern-Simons Theory	袁马轲
28	Nested-GPT for variable-multiplicity parton showers: A case study in the resummation of non-global logarithms	Shi, Haozhe
62	It from anomalies: Defect anomaly determines the universal defect energy and entropy	Huang, Zi-Xiao
69	qT-slicing with multiple jets	Fu, Rong-Jun
72	Positivity bounds in scalar-QED EFT at one-loop level	曹潇
137	Reflected multi-entropy and its holographic dual	李明懿
三、凝聚态物理（50 篇）		
2	Correlation between superfluid density and transition temperature in infinite-layer nickelate superconductor Nd1-xSrxNiO2	Li, Zhijie
3	Intrinsic Bulk Superconductivity in Underdoped PrNiO2 as a Distinct Superconducting Regim	李迟昊
4	二维反铁磁半导体 CrSBr 的电学调控研究	赵国瑞
20	Ferromagnetic Interface Engineering of Spin-Charge Conversion in RuO2	李兆晴
31	Microscopic Evidence of Spin-Driven Multiferroicity and Topological Spin Textures in Monolayer NiI2	王海涛

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35	Acoustoelectric Probing of Fractal Energy Spectra in Graphene/hBN Moiré Superlattices	宋文卿
45	Giant-exchange-driven Vectorial Control of a Minimal Topological Magnet in Eu3In2As4	陈昊楠
46	Anomalous acoustoelectric transport in graphene quantum Hall regimes	许子轩
51	Plasmonic Au/Si microconediode arrays for superior photodetection of near-infrared light	黄强
53	Engineering Properties of GeSi alloy Quantum Dots by High-Temperature Annealing	Luo, Wei
56	Giant Photo-induced Valley Hall Conductivity Driven by Twist-Engineered Quantum Geometry in a Moiré Superlattice	周俊辰
58	Integration of Freestanding High-k Oxide Membranes for 2D Ferroelectric Field-Effect Transistors	郭泽婧
61	Direct observation of interfacial exchange coupling in a magnetic tunnel junction through spin-polarized quasiparticle interference	王晨曦
65	Isotropic Magnon-Magnon Coupling Mediated by Dynamic Dipolar Interactions in Two-Dimensional Antiferromagnetic CrCl	徐红月
66	Evidences of subnanometre orbital diffusion length in heavy metals using terahertz emission spectroscopy	刘佳豪
67	Distinct Behaviors of Inner and Outer CuO2 Planes in Quadruple-Layer Cuprate (Cu,C)Ba2Ca3Cu4O11+	孙刑天
70	Observation of anomalous thermal Hall effect in altermagnet candidates MnTe and CrSb	万文波
74	Electron imaging simulation with optical computing	Han, Jiyuan
78	Interlayer electronic coherence links magnetism and superconductivity in Ruddlesden–Popper nickelates	Liu, Feiyang
79	Nature of magnetism in bilayer nickelate La3Ni2O7 single crystals	陈力行
82	Tuning Spin Spirals in Few-Layer NiI by Thickness and Curvature	Wang, Hongyu

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85	Aberration Measurements in Scanning Transmission Electron Microscopy using Deep Learning	Liu, Yitao
86	Observation of Two-Phonon Antiferromagnetic Resonance and Acoustically Driven Spin Current in an Antiferromagnet	熊锴
91	Dual spin excitation components in FeSe0.67Te0.33	张好
94	Electronic structure of monolayer tetragonal CoSe/FeOx/SrTiO3	Zhihui, Chen
97	Contrasting g-factor anisotropy in easy-plane and easy-axis van der Waals CrX3 (X = Cl, Br, I) magnetic materials	江南
98	Orbital and Spin Pumping Efficiency in 3d Ferromagnetic Metal Fe Co Ni.	Mo, Yuxiao
104	Fe2O3 磁畴的探测与动态调控研究	肖美琪
107	Study of Magnetic Domain Bubble Expansion in Ta/Pt/Co/Pt Films on Different Substrates	Fang, Jun
112	Anisotropic High-Order Anomalous Hall Effect in Epitaxial Nickel Thin Films	李乐安
113	Marginal-Fermi-Liquid-Like Strange Metal Behavior without Pseudogap in Infinite-Layer Nickelates	Fan, Yu
115	Moiré-Modulated Superconductivity and Edge States in a Spiral-Magnetic NiI /NbSe Heterostructure	田俊超
116	Quantum Well-Controlled High-Order Anisotropic Magnetoresistance in Epitaxial Fe(001) Thin Films	陈浩然
118	Magnetic Order in the van der Waals magnet VCl3	考泽宇
120	Measurement of spherical aberration coefficient in Scanning Transmission Electron Microscopy (STEM) from image displacement	Liu, Yifan
121	Development of a Focused MOKE Platform for Local Magneto-Optical Characterization	程臻
124	Dynamic Properties of Exchange Spirals in Fe/CoO Bilayer with Strong Interfacial Exchange Coupling	樊圆飞

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126	Topologically-Enhanced Spin-Orbit Torque for Deterministic Switching of Magnetic Order in MnBi2Te4	Chen, Jingyue
127	Depth resolution Ptychography reveals the presence of FeO on the surface of Fe3O4	王湛
131	Ferromagnet-like binary switching of a Stoner–Wohlfarth antiferromagnet	Wang, Zhanshan
132	Field-Like Torque Sign Reversal in RuO /FM Heterostructures with Unsaturated Thickness Dependence	单浩轩
136	Inelastic neutron scattering observation of altermagnetism-induced magnon splitting in CrSb	Cui, Bingkun
139	Spin Excitations and Magnetic Interactions in Trilayer Nickelate La4Ni3O10 Single Crystals	Zhang, Enkang
144	Electrical damping	齐煜
145	Layer-Dependent Superconductivity in Ta-doped Kagome Superconductor Cs(V0.86Ta0.14)3Sb5	黄思程
146	Absence of a Lifshitz Transition and Enhanced Three-Dimensional Electronic Structure in Superconducting Sm0.75Eu0.2Ca0.05NiO2	Song, Yujia
148	Pressure-induced double-dome superconductivity in doped kagome metal Cs(V0.86Ta0.14)3Sb5	孙浩宸
150	A cryogen-free low temperature scanning tunneling microscope integrating an on-axis parabolic mirror in magnetic field	王泽睿
154	Thermoelectricity evidence for quantum criticality in clean infinite-layer nickelate films	张旭
159	Thermal Anisotropy Modulation as a Major Source of Third Harmonic Magnetoresistance in Ni Thin Films	Feng, Yizi
四、软物质与生物物理（8 篇）		
5	Dual-symmetry-guided assembly of complex lattices	Fang, Huang
15	DeepLuAd: Semantic-guided virtual histopathology of lung adenocarcinoma via stimulated Raman scattering	马丽阳

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19	Structure Elucidation of the clCry4 C-terminal Domain and its Light-induced Conformational Dynamics by single molecule Fluorescence Resonance Energy Transfer (smFRET)	杨环梓
49	Real-Time Label-Free Chemical Visualization of the Cell Cryopreservation Process Using Cryogenic Stimulated Raman Scattering Microscopy	Luo, Kuan
59	Deep Learning–Optimized Ultrafast Large-Field-of-View Stimulated Raman Scattering Imaging of Living Tissue	兰一川
73	Efficient Enantioselective Separation via a Homochiral Graphene Oxide Membrane	袁威杰
76	Deep Learning-Assisted Analysis of Non-Equilibrium smFRET Trajectories under Low-SNR Conditions	王晓曼
142	Investigating the Assembly Pathway of SBA Protein Microtubules Using Single-Molecule Super-Resolution Imaging	徐晨
五、光物理与光科学（41 篇）		
11	Sum-Frequency Generation Study of Divalent Ion Effects at Silica/Water Interface	刘雨萱
12	Gate-Modulated Polarization Rectification for Giant Nonlinear Enhancement in Heterojunctions	刘彤影
18	Ultra-Compact, Cladding-Free Double Hyperbolic Waveguides with Topologically Protected Boundary States	Hu, Bo
22	Nanoscale Casimir force softening originated from quantum surface responses	张贺皖
23	Probing phonon chirality and circular lattice motion with symmetry-selective nonlinear optical spectroscopy	汪语涵
26	Hyperbolic shear metasurfaces via low-symmetry plasmonic resonators	马峻伟
33	Cross-frequency nonlinear metasurfaces for simultaneous near- and far-field enhancement and highly sensitive molecular detection	Wang, Yuchong

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37	Floquet Theory for Multi-pass Cell	曹译戈
40	Observation of counterion binding in the inner Helmholtz layer at ionic surfactant-water interface	彭宇阳
52	Surface Sum-Frequency Spectroscopy Covering the New Terahertz Gap	黄立
55	Self-assembly-based photonic crystal slabs for refractive index sensing via bound states in the continuum	Xu, Yuyang
57	Exploring Chiral Exceptional Lines in the Visible Regime	景怡赵
60	Meron Spin Textures in Momentum Space Spawning from Bound States in the Continuum	饶立希
68	Most subradiant bound photon pairs from chirality-mediated dispersion softening	谈凯霖
71	Propagation-invariant spatiotemporal vortices	叶俊燊
81	Decoupling chemical and morphological surface defects in -Ga2O3 by sum-frequency phonon spectroscopy	盛新悦
83	Acoustoelectric Control of Optoelectronic Anisotropy for Reconfigurable Polarimetry	蒋昶
90	Few-Cycle Pulse Generation via Nonlinear Self-Compression	冯达利
95	Stable random number generator in a PSR-based DOPO system.	张志仁
96	Vectorial lasing with designable topological charges based on Möbius-like correspondence in quasi-BICs	武钊尘
99	偶极激子驱动的偏振编码位移电流探测器	余博洋
101	Inherent spin-orbit locking in topological lasing via bound state in the continuum	王昕豪
102	Observation of giant nonlinear valley Hall effect	张敏
103	Gate- and Optically Controlled Nonlinear Optical Response in Graphene via Non-Perturbative Ultrafast Carrier Dynamics	吕霄龙
105	Single-parameter optimization of femtosecond supercontinuum generation in bulk YAG using effective filament length	冉锡霖

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111	Unveiling Charge Transfer between Specifically Adsorbed Ions and Substrate-Free Graphene Electrodes via Sum-Frequency Vibrational Spectroscopy	谷峰
114	Self-coupling Theory of MIM Resonant Structure	朱哲渊
119	Emergence of Symmetry-Forbidden Sideband Harmonics in Strong-Field-Driven Few-Layer WSe	Liu, Yaxin
122	Inverse-designed photonic crystals for tailored OAM beam generation and multiplexing in momentum space	邓儒欢
123	Room-Temperature Vector Atomic Magnetometer and Brain Magnetic Field Sensing	逯君怡
125	Magnetically Induced Topological Evolutions of Exceptional Points in Photonic Bands	Zhao, Xingqi
129	Supersymmetric Landau Levels in Subwavelength Type-I Dirac Metasurfaces	徐一凯
135	Intense-laser-induced symmetry breaking in silicon	刘伟风
140	Terahertz Metasurface for Manipulation of Surface Waves	何羽
143	Intrinsic Topological Hinge States Induced by Boundary Gauge Fields in Photonic Metamaterials	贺常盛
147	Composite picosecond control of atomic dipole with 99% efficiency	李一鸣
149	Polarization Steering Light Beam Shifts via a High-Efficiency Photonic Crystal Slab	吴舜奔
153	Wide-Field Aberration Correction via Multi-Plate Representation of Imaging Lenses	王动
155	Probing Nanophotonic Light – Atom Interaction via Single-shot Frequency-Jump Spectroscopy (FJS)	邬京谷
157	High-contrast Raman interferometry with up to 34 photon-recoil momentum transfer	赵宇翔
158	Acoustic-Optical Arbitrary Waveform Modulation for Raman atom interferometry	王宇飞

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32	Towards Stochastic Inflation in Higher-Curvature Gravity	Lin, Wei
34	Bouncing cosmologies from Born-Infeld-type gravity	Aldabergenov, Yermek