

# International Conference on Quantum Liquid Crystals 2021 (QLC2021)

Poster Session 1 \_ Tuesday, May 11, 2021

Poster No.

Poster Session 1 \_ Remo Floor 1

PS1-01	<b>Makoto Masuko (The University of Tokyo)</b> Nonreciprocal charge transport in topological insulator $(\text{Bi,Sb})_2\text{Te}_3$ / superconductor $\text{PdTe}_2$ junctions
PS1-02	<b>Ryutaro Okuma (University of Oxford)</b> Dimensional reduction by geometrical frustration in a cubic antiferromagnet composed of tetrahedral clusters
PS1-03	<b>Oleg Utesov (B.P. Konstantinov Petersburg Nuclear Physics Institute, National Research Center "Kurchatov Institute")</b> Mean-field approach for thermodynamically stable skyrmion lattices in frustrated antiferromagnets with dipolar interaction
PS1-04	<b>Hiroataka Abe (University of Hyogo)</b> Observation of magnetic domains of $\text{GdFeCo}$ thin film under laser irradiation
PS1-05	<b>Ryunosuke Takahashi (University of Hyogo)</b> Synthesis and superconducting properties of $\text{EuSn}_2\text{As}_2$
PS1-06	<b>Masahiko G. Yamada (Osaka University)</b> Electric probe for the toric code phase in Kitaev materials through the hyperfine interaction
PS1-07	<b>Yoshihiko Okamoto (Nagoya University)</b> Superconductivity in One-Dimensional Tellurides $\text{Nb}_2\text{Pd}_3\text{Te}_5$ and Chemically-Doped $\text{Ta}_2\text{Pd}_3\text{Te}_5$
PS1-08	<b>Kazuhiro Kimura (Kyoto University)</b> Probing the three-state Potts nematic fluctuation by ultrasound
PS1-09	<b>Ryotaro Sano (Kyoto University)</b> Nonreciprocal electron hydrodynamics in noncentrosymmetric metals under magnetic fields with applications of nonreciprocal surface magneto-plasmon
PS1-10	<b>Shuichi Iwakiri (Osaka University)</b> Nonlinear transport in Magnetic Tunnel Junction
PS1-11	<b>Kento Sasaki (The University of Tokyo)</b> Detection and control of a single proton spin in a diamond thin film with a single quantum sensor
PS1-12	<b>Shun Okumura (ISSP)</b> Hedgehog Lattice in a Centrosymmetric Cubic Metal

Poster Session 1 \_ Remo Floor 1

# International Conference on Quantum Liquid Crystals 2021 (QLC2021)

Poster Session 1 \_ Tuesday, May 11, 2021

Poster No.

Poster Session 1 \_ Remo Floor 2

PS1-13	<b>Tatsuya Miki (Saitama University)</b> Odd-frequency pairing inherent in Bogoliubov Fermi liquid
PS1-14	<b>Joji Nasu (Yokohama National University)</b> Spin-Splitting and Spin Seebeck Effect on Nonmagnetic Excitonic Insulators
PS1-15	<b>Koji Inui (The University of Tokyo)</b> Determinant-free fermionic wave function using a feed-forward neural network
PS1-16	<b>Kotaro Shimizu (The University of Tokyo)</b> Phason in multiple-Q topological spin textures
PS1-17	<b>Aki Kitaori (The University of Tokyo)</b> Emergent induction of $YMn_6Sn_6$ , beyond room temperature
PS1-18	<b>Moeta Tsukamoto (The University of Tokyo)</b> Magnetic domain structure imaging using diamond quantum sensor
PS1-19	<b>Masamichi Nakajima (Osaka University)</b> Elastoresistivity measurement on iron-based superconductor $Ba_{1-x}K_xFe_2As_2$
PS1-20	<b>Kiyu Fukui (The University of Tokyo)</b> Pseudo-fermion Functional Renormalization Group Study on the Feasibility of Kitaev Quantum Spin Liquid
PS1-21	<b>Kenta Kimura (The University of Tokyo)</b> Orthogonal Magnetization Induced by a Combination of Magnetic Quadrupoles and Crystal Chirality
PS1-22	<b>Masahiro O. Takahashi (Osaka University)</b> Topological Nematic Phase Transition in Kitaev Magnets Under Applied Magnetic Fields
PS1-23	<b>Rico Pohle (The University of Tokyo)</b> Dynamics of a quantum liquid crystal from numerical simulation
PS1-24	<b>Koki Eto (Nagoya University)</b> Crystal Structure and Physical Properties of Geometrically Frustrated 4f Magnets $NaLnTe_2$ ( $Ln = Ce, Pr, Nd$ )

Poster Session 1 \_ Remo Floor 2

# International Conference on Quantum Liquid Crystals 2021 (QLC2021)

Poster Session 1 \_ Tuesday, May 11, 2021

Poster No.

Poster Session 1 \_ Remo Floor 3

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|--------|--|
| PS1-25 | <b>Minoru Kanega (Ibaraki University)</b><br>Numerical analysis of optical fermionic response in Kitaev spin liquids   |
| PS1-26 | <b>Sparsh Mishra (Nagoya University)</b><br>Effect of long-range Coulomb interaction on the surface state of a topological Insulator   |
| PS1-27 | <b>Haruhisa Kitano (Aoyama Gakuin University)</b><br>Contribution of Josephson current and its nonequilibrium effects in the c-axis short weak links of FeTe <sub>0.6</sub> Se <sub>0.4</sub> superconductors                    |
| PS1-28 | <b>Yusaku Shinoda (Nagoya University)</b><br>Superconductivity in Ca <sub>3</sub> M <sub>4</sub> Bi <sub>8</sub> (M = Pd, Pt)  |
| PS1-29 | <b>Michiya Chazono (Kyoto University)</b><br>Magnetopiezoelectric Effect in Superconductors  |
| PS1-30 | <b>Yoichi Kageyama (The University of Tokyo)</b><br>Laser-PEEM study on electron nematicity in Ba <sub>1-x</sub> Na <sub>x</sub> Fe <sub>2</sub> As <sub>2</sub> with x = 0.18   |
| PS1-31 | <b>Akira Matsui (The University of Tokyo)</b><br>Skyrmion-size dependence of the topological Hall effect: A real-space calculation   |
| PS1-32 | <b>Takeshi Hayashida (The University of Tokyo)</b><br>Visualization of ferroaxial domains in RbFe(MoO <sub>4</sub> ) <sub>2</sub> via electrogyration  |
| PS1-33 | <b>Yoshito Watanabe (The University of Tokyo)</b><br>Control of the magnetic phase diagram of Ba <sub>2</sub> CoGe <sub>2</sub> O <sub>7</sub> by the partial substitution of non-magnetic Zn <sup>2+</sup> for Co <sup>2+</sup> |
| PS1-34 | <b>Taisei Kitamura (Kyoto University)</b><br>Nontrivial correction due to geometric effect to superfluid weight in monolayer FeSe on SrTiO <sub>3</sub>  |
| PS1-35 | <b>Kensuke Ogawa (The University of Tokyo)</b><br>Development of temperature imaging technique using diamond quantum sensor  |
| PS1-36 | <b>Yajian Hu (Kyoto University)</b><br>An all-fiber magneto-optical Kerr effect setup towards detection of chiral superconductivity  |

Poster Session 1 \_ Remo Floor 3

# International Conference on Quantum Liquid Crystals 2021 (QLC2021)

Poster Session 1 \_ Tuesday, May 11, 2021

Poster No.

Poster Session 1 \_ Remo Floor 4

**Seiichiro Onari (Nagoya University)**

PS1-37

Analysis of phase diagram in  $\text{FeSe}_{1-x}\text{Te}_x$

**Akito Daido (Kyoto University)**

PS1-38

Thermodynamic formulation of electric quadrupole moments

**Kazuki Nakazawa (The University of Tokyo)**

PS1-39

Thermal transport in the Kitaev spin liquid under a staggered magnetic field

**Yue Sun (Aoyama Gakuin University)**

PS1-40

Out-of-plane transport properties of FeSe single crystal

**Ryota Watanabe (The University of Tokyo)**

PS1-41

Enhancement of anomalous Hall effect in Fermi energy tuned intrinsic magnetic topological insulator  $\text{Mn}(\text{Bi,Sb})_2\text{Te}_4$  thin films

**Yuma Umimoto (The University of Tokyo)**

PS1-42

Magnetic Alignment of Pseudo-polyrotaxane Nanosheets

**Yoshiki Tani (University of Hyogo)**

PS1-43

Observation of magnetic domains of  $\text{NiCo}_2\text{O}_4$  thin films by a MOKE microscope

**Kazushi Aoyama (Osaka University)**

PS1-44

Frustration-induced hedgehog lattice in breathing-pyrochlore Heisenberg antiferromagnets

**Hiroshi Watanabe (Ritsumeikan University)**

PS1-45

Unified Description of cuprate superconductors using four-band d-p model

Poster Session 1 \_ Remo Floor 4

# International Conference on Quantum Liquid Crystals 2021 (QLC2021)

Poster Session 2 \_ Wednesday, May 12, 2021

Poster No.

Poster Session 2 \_ Remo Floor 1

PS2-01	<b>Tokuro Shimokawa (OIST)</b> High-field spin nematic state in $S=1/2$ J <sub>1</sub> -K square-lattice ferromagnet -Exact diagonalization study and related new open-source package QS <sup>3</sup> -
PS2-02	<b>Matthias Gohlke (OIST)</b> High-Field Spin-Nematic State in the $S=1/2$ J-K Square-Lattice Frustrated Ferromagnet
PS2-03	<b>Makoto Naka (Waseda University)</b> Spin current generation in collinear antiferromagnets
PS2-04	<b>Ryuta Iwazaki (Saitama University)</b> Spin-orbital model for fullerides
PS2-05	cancel
PS2-06	<b>Yoshihiro Kato (The University of Tokyo)</b> Topological magneto-optical effect induced by small-size skyrmion lattice
PS2-07	<b>Kentaro Ueda (The University of Tokyo)</b> Realization of quantum spin ice and tunable anomalous Hall effect in pyrochlore semimetal Pr <sub>2</sub> Ir <sub>2</sub> O <sub>7</sub>
PS2-08	<b>Yutaka Akagi (The University of Tokyo)</b> Topological Magnons from "nematicity"
PS2-09	<b>Satoshi Ando (Nagoya University)</b> Development of spin fluctuation under the presence of d-wave bond order in cuprate superconductors
PS2-10	<b>Kazutaka Kudo (Osaka University)</b> Superconductivity of the Fully and Partially Ordered Laves Phase Compounds
PS2-11	<b>Taiki Kawamura (Nagoya University)</b> Magnetism induced by the nesting vector at the edge of the single-component molecular conductor [Pt(dmdt) <sub>2</sub> ]
PS2-12	<b>Tadashi Adachi (Sophia University)</b> Chiral Superconductivity in BaPtAs <sub>1-x</sub> Sb <sub>x</sub> with a Honeycomb Network

Poster Session 2 \_ Remo Floor 1

# International Conference on Quantum Liquid Crystals 2021 (QLC2021)

Poster Session 2 \_ Wednesday, May 12, 2021

Poster No.

Poster Session 2 \_ Remo Floor 2

PS2-13	<b>Sosuke Hori (Osaka University)</b> Spin Hall magnetoresistance in CoFeB/SrIrO <sub>3</sub> bilayer
PS2-14	<b>Daigo Ohki (Nagoya University)</b> Insulating mechanism of organic Dirac electron system $\alpha$ -(BEDT-TTF) <sub>2</sub> I <sub>3</sub> and $\alpha$ -(BETS) <sub>2</sub> I <sub>3</sub>
PS2-15	<b>Shunsuke Furuya (Ibaraki University)</b> DC electric-field controls of superexchange and Dzyaloshinskii-Moriya interactions
PS2-16	<b>Tsutomu Nojima (Tohoku University)</b> Anomalous Metallic Transport Induced by Ferroelectric Transition in Ion-Gated SrTiO <sub>3</sub>
PS2-17	<b>Takami Tohyama (Tokyo University of Science)</b> Antiphase Oscillations in the Time-Resolved Spin Structure Factor of Photoexcited Two-Dimensional Mott Insulator
PS2-18	<b>Takanori Sugimoto (Tokyo University of Science)</b> Effects of bond alternation and backscattering interaction in a 2D electron system with spontaneous breaking of rotational symmetry
PS2-19	<b>Youichi Yamakawa (Nagoya University)</b> Unconventional orbital-charge density wave mechanism in transition metal dichalcogenide 1T-TaS <sub>2</sub>
PS2-20	<b>Kimberly Remund (OIST)</b> New Method for Studying Dynamics and Thermodynamics of Spin-1 Magnets: Application to the Ferroquadrupolar Order
PS2-21	<b>Hiroshi Ikuta (Nagoya University)</b> Transport Anisotropy of NdFeAs(O,F) and NdFeAs(O,H)
PS2-22	<b>Akira Kofuji (Kyoto University)</b> Effects of strong correlations on nonlinear responses
PS2-23	<b>Yota Komiyama (Sophia University)</b> Fe-Substitution Effects on Ferromagnetic Fluctuations in Heavily Overdoped Bi-2201 Cuprates
PS2-24	<b>Yusuke Nagakubo (Sophia university)</b> Hall Resistivity in the Electron-Doped High-Tc Cuprates Pr <sub>1.3-x</sub> La <sub>0.7</sub> Ce <sub>x</sub> CuO <sub>4</sub> Reduced by Improved Annealing

Poster Session 2 \_ Remo Floor 2

# International Conference on Quantum Liquid Crystals 2021 (QLC2021)

Poster Session 2 \_ Wednesday, May 12, 2021

Poster No.

Poster Session 2 \_ Remo Floor 3

**Yusuke Masaki (Tohoku University)**

PS2-25

Vortices in  ${}^3P_2$  Nematic Superfluid: Majorana fermion and non-Abelian half-quantum vortex

**Ryo Araki (Kyoto University)**

PS2-26

Current-induced two-fold anisotropy of the upper critical field of  $Sr_2RuO_4$

**Koki Shinada (Kyoto University)**

PS2-27

Nonreciprocal current induced by ferromagnetism in a Kondo lattice with Rashba-type SOC

**Shun Matsubara (Nagoya University)**

PS2-28

Strong coupling theory for odd-frequency surface superconductivity with spontaneous spin current due to zero-energy Andreev-bound-state

PS2-29 **cancel**

**Kazuhiro Nawa (IMRAM, Tohoku University)**

PS2-30

Search for the  $J_1$ - $J_2$  low-dimensional frustrated magnet

**Yuta Mizukami (The University of Tokyo)**

PS2-31

Field-angle dependence of Majorana gap in a Kitaev spin liquid revealed by heat capacity measurements

**Yoshiaki Uchida (Osaka University)**

PS2-32

Spins in Liquid Crystal

**Masaki Roppongi (The University of Tokyo)**

PS2-33

Low-energy quasiparticle excitations in  $BiCh_2$ -based superconductor studied by magnetic penetration depth measurements

**Satoshi Tsuchiya (Hokkaido University)**

PS2-34

Ultrafast destruction and recovery of the Mott state in  $\kappa$ -(BEDT-TTF) $_2$ Cu[N(CN) $_2$ ]Cl studied by three-pulse pump probe spectroscopy

**Yasunori Toda (Hokkaido University)**

PS2-35

Optical vortex generation and control in rotationally symmetry-breaking microcavities

**Hideto Fukazawa (Chiba University)**

PS2-36

Pseudogap Behavior in  $T'-Pr_{1.3-x}La_{0.7}Ce_xCuO_4$  and  $T'-La_{1.8}Eu_{0.2}CuO_{4-y}F_y$  Studied by  ${}^{63,65}Cu$  NMR

Poster Session 2 \_ Remo Floor 3

# International Conference on Quantum Liquid Crystals 2021 (QLC2021)

Poster Session 2 \_ Wednesday, May 12, 2021

Poster No.

Poster Session 2 \_ Remo Floor 4

PS2-37	<b>Takuya Aoyama (Tohoku University)</b> Pressure-induced orbital switching in iron-based ladder material $\text{BaFe}_2(\text{S}_{1-x}\text{Se}_x)_3$
PS2-38	<b>Christopher Butler (RIKEN CEMS)</b> Observation of Electronic Nematic Order in the Correlated Dirac Semimetal $\text{BaNiS}_2$
PS2-39	<b>Hirotake Itoh (Tohoku University)</b> Ultrafast photoresponse of electronic-ferroelectric domains depinned by anion ordering in strongly correlated organic conductors
PS2-40	<b>Ziyang Liu (Nagoya University)</b> $^{181}\text{Ta}$ -NQR Study of the Electronic State of Excitonic Insulator Candidate $\text{Ta}_2\text{NiSe}_5$
PS2-41	<b>Yoshiaki Kobayashi (Nagoya University)</b> Phase diagram of Iron Pnictide Superconductor $(\text{La}_{0.5-x}\text{Na}_{0.5+x})\text{Fe}_2\text{As}_2$ ( $x = 0 \sim 0.3$ )
PS2-42	<b>Ryusuke Misawa (The University of Tokyo)</b> Magnetic quadrupole order on chiral antiferromagnets probed by utilizing circularly polarized resonant x-ray scattering
PS2-43	<b>Hideyuki Fujihara (Tohoku University)</b> Ligand substitution effect of Kitaev-spin liquid candidate materials $\text{RuX}_3$ ( $X = \text{Cl}, \text{Br}, \text{and I}$ )
PS2-44	<b>Takamasa Ohashi (Nagoya University)</b> Nuclear quadrupole resonance in Kitaev quantum spin liquid candidate $\text{Ru}_{1-x}\text{Os}_x\text{Cl}_3$
PS2-45	<b>Tianchun Wang (The University of Tokyo)</b> Absence of conventional room temperature superconductivity at high pressure in carbon doped $\text{H}_3\text{S}$
PS2-46	<b>Takemi Yamada (Tokyo University of Science)</b> Theoretical analysis of the nonmagnetic nematic states of $\text{FeSe}$ based on the DFT+U method and Wannier model
PS2-47	<b>Taku Matsushita (Nagoya University)</b> Quantum Critical Behaviors of Spin-Liquid Candidate $S=1/2$ Kagome Magnet $\text{Cu-CAT-1}$
PS2-48	<b>Yuki Kojima (Tokyo Institute of Technology)</b> Inelastic neutron scattering study of a stacked spin-1/2 triangular and honeycomb lattices antiferromagnet $\text{Ba}_2\text{CoTeO}_6$

Poster Session 2 \_ Remo Floor 4