

SIFT 2019: Strongly-Interacting Field Theories



Report of Contributions

Contribution ID: 1

Type: **not specified**

Topological crystalline phase in nuclear matter under strong magnetic fields

Friday, 8 November 2019 12:10 (50 minutes)

Presenter: BRAUNER, Tomas

Contribution ID: 2

Type: **not specified**

Tensor renormalization group in bosonic field theories

Friday, 8 November 2019 09:55 (50 minutes)

Presenter: LOPEZ, Esperanza

Contribution ID: 3

Type: **not specified**

From spin chains to real-time thermal field theory using tensor networks (Poster)

Thursday, 7 November 2019 18:00 (10 minutes)

Presenter: KNAUTE, Johannes

Contribution ID: 4

Type: **not specified**

The melonic large N limit: from SYK to tensor field theory

Saturday, 9 November 2019 09:00 (50 minutes)

I will summarize the structure and scope of the so-called melonic large N expansion, which typically governs the large N behaviour of theories involving higher rank tensors. Compared to vector and matrix theories, What distinguishes it from the large N expansions of vector or matrix theories is that it is dominated by a non-trivial family of Feynman diagrams – the melon diagrams – which remains explicitly summable in a variety of situations. This provides a new analytical window into non-perturbative aspects of quantum theory, which has been taken advantage of to investigate strongly-interacting fermionic disordered systems (SYK model) and higher-dimensional generalizations.

Presenter: CARROZZA, Sylvain (Perimeter Institute, Waterloo)

Contribution ID: 5

Type: **not specified**

Finite density simulations for strongly interacting field theories

Thursday, 7 November 2019 16:20 (50 minutes)

Presenter: ALEXANDRU, Andrei (George Washington University)

Contribution ID: 6

Type: **not specified**

A Curvature Bound From Gravitational Catalysis (Poster)

Thursday, 7 November 2019 18:00 (10 minutes)

Presenter: MARTINI, Riccardo (Okinawa Institute of Science and Technology)

Contribution ID: 7

Type: **not specified**

Thermodynamics of Polarized Fermions

Saturday, 9 November 2019 12:10 (50 minutes)

Presenter: BRAUN, Jens (TU Darmstadt)

Contribution ID: 8

Type: **not specified**

Tensor Networks as numerical tools for QFT

Friday, 8 November 2019 09:00 (50 minutes)

Presenter: BAÑULS, Mari-Carmen (MPQ München)

Contribution ID: 9

Type: **not specified**

Spontaneous symmetry breaking in 4-Fermi theories of gapless fermions with quadratic dispersion in (2+1)D (Poster)

Thursday, 7 November 2019 18:30 (10 minutes)

Presenter: RAY, Shouryya (TU Dresden)

Contribution ID: 10

Type: **not specified**

Lattice investigation of an inhomogeneous phase of the 2+1-dimensional Gross-Neveu model in the limit of infinitely many flavors

Saturday, 9 November 2019 11:15 (50 minutes)

Presenter: WAGNER, Marc (Frankfurt U)

Contribution ID: 11

Type: **not specified**

Dualities and inhomogeneous phases in dense quark matter with chiral and isospin imbalances in the framework of effective model

Saturday, 9 November 2019 09:55 (50 minutes)

Presenter: KHUNJUA, Tamaz (Lomonosov Moscow State U)

Contribution ID: 12

Type: **not specified**

Crystalline chiral condensates in dense quark matter

Friday, 8 November 2019 11:15 (50 minutes)

In the past few years a growing consensus has been building around the idea that a spatially inhomogeneous chiral condensate may form in dense quark matter. In this talk, I will give a brief historical overview and review some recent developments on the characterization of such crystalline condensates using effective models for describing of QCD at finite density.

Presenter: CARIGNANO, Stefano (Barcelona U)

Contribution ID: 14

Type: **not specified**

Generalized 't Hooft anomalies

Thursday, 7 November 2019 09:00 (50 minutes)

Presenter: ANBER, Mohammed (Lewis & Clark College, Portland)

Contribution ID: 15

Type: **not specified**

Dualities in field theories for condensed matter

Thursday, 7 November 2019 15:00 (50 minutes)

Presenter: JANSSEN, Lukas (TU Dresden)

Contribution ID: 16

Type: **not specified**

Computational Spectroscopy of Quantum Critical Points

Thursday, 7 November 2019 11:15 (50 minutes)

Presenter: LAEUCHLI, Andreas (Innsbruck U)

Contribution ID: 17

Type: **not specified**

Dynamics on the edge: charge fractionalization and anyonic exclusion

Thursday, 7 November 2019 12:10 (50 minutes)

Equilibration of isolated quantum systems has attracted much attention recently. Due to their integrability, one-dimensional systems often equilibrate towards a non-thermal steady state. In coupled quantum Hall edge states, the approach towards such a non-equilibrium steady state can be understood in terms of charge fractionalization, i.e. the decomposition of injected charges into eigenmodes propagating at different velocities. The method of non-equilibrium bosonization allows to describe such equilibration, distinguishing the regimes of quasi-particle creation and local equilibration. Generalizing to anyons on fractional quantum Hall edges, steady state current fluctuations can be related to the probability of anyons excluding each other spatially.

Presenter: ROSENOW, Bernd (Leipzig U)

Contribution ID: **18**

Type: **not specified**

Quantum distillations, semi-classics and mixed anomalies

Thursday, 7 November 2019 09:55 (50 minutes)

Presenter: ÜNSAL, Mithat (NC State U)

Contribution ID: 19

Type: **not specified**

The necessity of indefinite metric Hilbert spaces in covariant gauges of QED (Poster)

Thursday, 7 November 2019 18:10 (10 minutes)

Presenter: MANDRYSCH, Jan (Leipzig U)

Contribution ID: 20

Type: **not specified**

Dense nuclear and quark matter from holography

Friday, 8 November 2019 15:00 (50 minutes)

Presenter: SCHMITT, Andreas (Southampton U)

Contribution ID: 21

Type: **not specified**

Competition of inhomogeneous chiral phases with homogeneous 2SC phases in low-energy models of QCD (Poster)

Thursday, 7 November 2019 18:10 (10 minutes)

Presenter: LAKASCHUS, Phillip (U Frankfurt)

Contribution ID: 22

Type: **not specified**

Hydrodynamics, Spontaneously Broken Symmetries, and Holography

Friday, 8 November 2019 16:20 (30 minutes)

Presenter: GRAY, Sean (FSU Jena)

Contribution ID: 23

Type: **not specified**

Ward identities and baryonic states in $N = 1$ SUSY Yang-Mills theory on the lattice (Poster)

Thursday, 7 November 2019 18:20 (10 minutes)

Presenter: ALI, Sajid (U Münster)

Contribution ID: 24

Type: **not specified**

Exploring the phases of Yang-Mills theory with adjoint matter through the gradient flow

Thursday, 7 November 2019 17:15 (30 minutes)

Presenter: LOPEZ, Camilo (FSU Jena)

Contribution ID: 25

Type: **not specified**

Inhomogeneous Phases in Gross-Neveu Models

Friday, 8 November 2019 16:55 (30 minutes)

Presenter: LENZ, Julian (FSU Jena)

Contribution ID: 26

Type: **not specified**

Asymptotically safe QED (Poster)

Thursday, 7 November 2019 18:00 (10 minutes)

Presenter: ZIEBELL, Jobst (FSU Jena)

Contribution ID: 27

Type: **not specified**

TBA

Thursday, 7 November 2019 18:20 (10 minutes)

Presenter: STEIL, Martin (TU Darmstadt)

Contribution ID: 28

Type: **not specified**

N=1 Supersymmetric SU(3) Gauge Theory With A Twist

Thursday, 7 November 2019 18:20 (10 minutes)

Presenter: STEINHAUSER, Marc (FSU Jena)

Contribution ID: 29

Type: **not specified**

X-ray photon scattering at a focused high-intensity laser pulse (Poster)

Thursday, 7 November 2019 18:10 (10 minutes)

Presenter: MOSMAN, Elena (Tomsk PU)

Contribution ID: 30

Type: **not specified**

Density of States Techniques for Finite Density Lattice QCD (Poster)

Thursday, 7 November 2019 18:30 (10 minutes)

Presenter: MANDL, Michael (Graz U)