

FIPs 2020 - Feebly Interacting Particles 2020

Report of Contributions

Contribution ID: 1

Type: **not specified**

SM problems and FIPs from theoretical viewpoints

Monday, 31 August 2020 14:20 (40 minutes)

Presenter: KNAPEN, Simon (Institute for Advanced Study)

Session Classification: Introductory Talks

Contribution ID: 2

Type: **not specified**

What can we learn for particle physics from DM cosmological observations?

Monday, 31 August 2020 15:00 (30 minutes)

Presenter: BOIARSKYI, Alexey (Leiden University (NL))

Session Classification: Introductory Talks

Contribution ID: 3

Type: **not specified**

Theory overview of DM models in the low (<10 GeV) mass range

Monday, 31 August 2020 15:30 (30 minutes)

Presenter: BERLIN, Asher (University of Chicago)

Session Classification: Introductory Talks

Contribution ID: 4

Type: **not specified**

Status and prospects of DM direct detection experiments in the low (< 10 GeV) mass region

Monday, 31 August 2020 16:00 (30 minutes)

Presenter: CEBRIAN, Susana (Universidad de Zaragoza)

Session Classification: Introductory Talks

Contribution ID: 5

Type: **not specified**

Search for FIPs at collider based experiments (overview)

Monday, 31 August 2020 17:00 (30 minutes)

Presenter: RUSSELL, Heather (McGill University (CA))

Session Classification: Introductory Talks

Contribution ID: 6

Type: **not specified**

Search for FIPs with experiments at extracted beams (overview)

Monday, 31 August 2020 17:30 (30 minutes)

Presenter: ECHENARD, Bertrand (California Institute of Technology)

Session Classification: Introductory Talks

Contribution ID: 7

Type: **not specified**

Search for very low mass FIPs (atomic physics, quantum technology)

Monday, 31 August 2020 18:00 (30 minutes)

Presenter: Dr STADNIK, Yevgeny (Kavli IPMU, University of Tokyo)

Session Classification: Introductory Talks

Contribution ID: 8

Type: **not specified**

Theoretical introduction to seesaw models and their connection to leptogenesis

Tuesday, 1 September 2020 14:30 (30 minutes)

Presenter: DREWES, Marco (Universite Catholique de Louvain (UCL) (BE))

Session Classification: Feebly interacting fermion particles

Contribution ID: 9

Type: **not specified**

HNLs and their relation to astroparticle and cosmology (3.5 keV line, BBN, measurement of the absolute neutrino masses (KATRIN, Euclid, etc.))

Tuesday, 1 September 2020 15:00 (25 minutes)

Presenter: Prof. RUCHAYSKIY, Oleg (University of Copenhagen (DK))

Session Classification: Feebly interacting fermion particles

Contribution ID: 10

Type: **not specified**

HNLs and their relation (or non-relation) to active neutrino physics (PMNS, δ CP, $0\nu\beta\beta$ decay, $m(\text{lightest neutrino}),..$)

Tuesday, 1 September 2020 15:25 (25 minutes)

Presenter: LOPEZ PAVON, Jacobo (IFIC, CSIC-Universitat de València)

Session Classification: Feebly interacting fermion particles

Contribution ID: 11

Type: **not specified**

Search for HNLs at extracted beams (neutrino experiments (T2K), NA62-kaon and dump mode, prospects for DUNE)

Tuesday, 1 September 2020 16:10 (25 minutes)

Presenter: IZMAYLOV, Alexander (INR RAS)

Session Classification: Feebly interacting fermion particles

Contribution ID: 12

Type: **not specified**

Search for HNLs at LHCb, ATLAS, CMS: status and prospects

Tuesday, 1 September 2020 16:35 (25 minutes)

Presenter: SHCHUTSKA, Lesya (EPFL - Ecole Polytechnique Federale Lausanne (CH))

Session Classification: Feebly interacting fermion particles

Contribution ID: 13

Type: **not specified**

Prospects Search for HNLs with SHiP, MATHUSLA, FASER, and CODEX-b

Tuesday, 1 September 2020 17:00 (25 minutes)

Presenter: SERRA, Nicola (Universitaet Zuerich (CH))

Session Classification: Feebly interacting fermion particles

Contribution ID: 14

Type: **not specified**

Prospects to search for HNLs at future ee/ep/pp colliders

Tuesday, 1 September 2020 17:25 (25 minutes)

Presenter: FISCHER, Oliver (Max-Planck-Institute fuer Kernphysik)

Session Classification: Feebly interacting fermion particles

Contribution ID: 33

Type: **not specified**

Discussion Session

Monday, 31 August 2020 18:30 (30 minutes)

Contribution ID: 36

Type: **not specified**

Scalar portal and its connection to Higgs physics from a theory viewpoint

Friday, 4 September 2020 16:50 (30 minutes)

Presenter: GORI, stefania (UC Santa Cruz)

Session Classification: Feebly interacting scalar particles

Contribution ID: 37

Type: **not specified**

Cosmology and particle phenomenology of feebly interacting scalars

Friday, 4 September 2020 14:30 (30 minutes)

Presenter: BEZRUKOV, Fedor (University of Manchester (GB))

Session Classification: Feebly interacting scalar particles

Contribution ID: **38**

Type: **not specified**

Experimental constraints on the exotic Higgs width

Friday, 4 September 2020 15:00 (25 minutes)

Presenter: CEPEDA, Maria (CIEMAT)

Session Classification: Feebly interacting scalar particles

Contribution ID: 39

Type: **not specified**

Direct searches for feebly-interacting dark scalars at the central detectors of the LHC: status and prospects

Friday, 4 September 2020 15:25 (25 minutes)

Presenter: MARTINEZ OUTSCHOORN, Verena Ingrid (Fermi National Accelerator Lab. (US))

Session Classification: Feebly interacting scalar particles

Contribution ID: 40

Type: **not specified**

Search for light feebly-interacting scalar particles at extracted beam lines (SeaQuest @ FNAL, NA62, SHiP,...)

Friday, 4 September 2020 16:10 (20 minutes)

Presenter: SWALLOW, Joel Christopher (University of Birmingham (GB))

Session Classification: Feebly interacting scalar particles

Contribution ID: 41

Type: **not specified**

Prospects to search for light feebly-interacting scalar particles at MATHUSLA, CODEX-b, FASER, ANUBIS, ...

Friday, 4 September 2020 16:30 (20 minutes)

Presenter: CURTIN, David (University of Toronto)

Session Classification: Feebly interacting scalar particles

Contribution ID: 42

Type: **not specified**

Status of stellar and astrophysics constraints on new (feebly-interacting) physics (covering vector, scalar, pseudo-scalar portals)

Thursday, 3 September 2020 14:30 (30 minutes)

Presenter: GIANNOTTI, Maurizio (Barry University)

Session Classification: Feebly interacting pseudo-scalar particles

Contribution ID: 43

Type: **not specified**

Axions/ALPs as DM and/or light DM mediators: phenomenology

Thursday, 3 September 2020 15:00 (30 minutes)

Presenter: RINGWALD, Andreas (Deutsches Elektronen-Synchrotron DESY)

Session Classification: Feebly interacting pseudo-scalar particles

Contribution ID: 44

Type: **not specified**

QCD axion beyond the axion band

Thursday, 3 September 2020 15:30 (25 minutes)

Presenter: AGRAWAL, Prateek (University of Maryland)

Session Classification: Feebly interacting pseudo-scalar particles

Contribution ID: 45

Type: **not specified**

Axions/ALPs as DM and/or light DM mediators: overview of experimental approaches in the low mass range

Thursday, 3 September 2020 16:15 (30 minutes)

Presenter: GARCIA IRASTORZA, Igor (Universidad de Zaragoza (ES))

Session Classification: Feebly interacting pseudo-scalar particles

Contribution ID: 46

Type: **not specified**

axions/ALPs phenomenology at accelerator-based experiments

Thursday, 3 September 2020 16:45 (30 minutes)

Presenter: KAHLHOEFER, Felix (RWTH Aachen University)

Session Classification: Feebly interacting pseudo-scalar particles

Contribution ID: 47

Type: **not specified**

Search for axions/ALPs at the LHC

Thursday, 3 September 2020 17:15 (25 minutes)

Presenter: D'ENTERRIA, David (CERN)

Session Classification: Feebly interacting pseudo-scalar particles

Contribution ID: 48

Type: **not specified**

Discussion Session

Thursday, 3 September 2020 17:40 (30 minutes)

Contribution ID: 49

Type: **not specified**

Early cosmology (BBN, re-ionisation, 21 cm) constraints on new (feebly-interacting) physics (covering vector, scalar, pseudo-scalar portals)

Wednesday, 2 September 2020 14:30 (30 minutes)

Presenter: POSPELOV, Maxim

Session Classification: Feebly interacting vector particles

Contribution ID: 50

Type: **not specified**

Search for LDM and vector mediators at accelerator-based experiments in US (HPS, BDX, Mini-Boone, LDMX,...)

Wednesday, 2 September 2020 17:20 (30 minutes)

Presenter: NELSON, Timothy Knight (SLAC National Accelerator Laboratory (US))

Session Classification: Feebly interacting vector particles

Contribution ID: 51

Type: **not specified**

Search for LDM and Vector/ALPs mediators in the sub-GeV mass range at NA64, NA62, MESA, PADME.

Wednesday, 2 September 2020 15:00 (30 minutes)

Presenter: GNINENKO, Sergei (Russian Academy of Sciences (RU))

Session Classification: Feebly interacting vector particles

Contribution ID: 52

Type: **not specified**

LDM and mediator searches at B-factories (Belle-II, including BaBar ad Belle results)

Wednesday, 2 September 2020 15:30 (30 minutes)

Presenter: GRAZIANI, Enrico (INFN - National Institute for Nuclear Physics)

Session Classification: Feebly interacting vector particles

Contribution ID: 53

Type: **not specified**

Search for LDM and vector mediators at LHCb, ATLAS, CMS: status and prospects

Wednesday, 2 September 2020 16:30 (25 minutes)

Presenter: ILTEN, Philip (University of Birmingham (GB))

Session Classification: Feebly interacting vector particles

Contribution ID: 54

Type: **not specified**

Search for LDM and vector mediators at FASER, CODEX-b, SHiP, MATHUSLA

Wednesday, 2 September 2020 16:55 (25 minutes)

Presenter: SALFELD-NEBGEN, Jakob (CERN)

Session Classification: Feebly interacting vector particles

Contribution ID: 55

Type: **not specified**

Discussion Session

Wednesday, 2 September 2020 17:50 (30 minutes)

Contribution ID: 56

Type: **not specified**

Discussion

Friday, 4 September 2020 17:20 (30 minutes)

Contribution ID: 57

Type: **not specified**

Discussion Session

Tuesday, 1 September 2020 17:50 (30 minutes)

Contribution ID: 58

Type: **not specified**

Opening by the CERN Director for Research and Computing, Prof. E. Elsen

Monday, 31 August 2020 14:00 (20 minutes)

Presenter: ELSEN, Eckhard (CERN)

Contribution ID: 59

Type: **not specified**

Closing (Proceedings, next editions of the workshop, etc.)

Friday, 4 September 2020 17:50 (10 minutes)

Presenter: LANFRANCHI, Gaia (INFN e Laboratori Nazionali di Frascati (IT))