Workshop on Electric and Magnetic Dipole Moments

Report of Contributions

https://indico.fnal.gov/e/DipoleMomentsWorkshop

Contribution ID: **3** Type: **not specified**

Welcome and Overview

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

Presenter: BLUM, Thomas (University of Connecticut)

Session Classification: Dipole Moments Day 1

Contribution ID: **4** Type: **not specified**

Overview EDM theory

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

Presenter: Prof. MARCIANO, William (Brookhaven National)

Session Classification: Dipole Moments Day 1

Contribution ID: **5** Type: **not specified**

Lattice and EDMs

Tuesday, 15 September 2020 15:40 (25 minutes)

Presenter: YOON, Boram (Los Alamos National Laboratory)

Session Classification: Dipole Moments Day 1

Contribution ID: **6** Type: **not specified**

Phenomenology and EDMs

Tuesday, 15 September 2020 16:05 (25 minutes)

Presenter: MEREGHETTI, Emanuele (Los Alamos National Laboratory)

Session Classification: Dipole Moments Day 1

Contribution ID: **8** Type: **not specified**

Challenges and opportunities in future searches for the electric dipole moment of the neutron

Tuesday, 15 September 2020 16:45 (25 minutes)

The existence of a nonzero permanent electric dipole moment of the neutron would reveal a new source of CP violation and might shed light on the origin of the matter/antimatter asymmetry of the Universe. The sensitivity of future experiments using intense sources of neutrons will probe new physics well beyond the TeV scale.
A discovery of an nEDM or a further improved limit will markedly and persistently shape future models of particle physics beyond the current standard model.
In my talk I will report on the status of groups from around the world all passionately competing to improve the current experimental sensitivity of 1.1E-26ecm [C. Abel et al., PRL124(2020)081803] to at least 1E-27 ecm within the next decade.

Presenter: SCHMIDT-WELLENBURG, Philipp (Paul Scherrer Institute)

Session Classification: Dipole Moments Day 1

Contribution ID: **9** Type: **not specified**

nEDM at SNS

Tuesday, 15 September 2020 17:10 (25 minutes)

Presenter: FILIPPONE, Brad (caltech)

Session Classification: Dipole Moments Day 1

Contribution ID: **10** Type: **not specified**

nEDM at LANL

Tuesday, 15 September 2020 17:35 (25 minutes)

Presenter: ITO, Takeyasu (Los Alamos National Laboratory)

Session Classification: Dipole Moments Day 1

Contribution ID: **11** Type: **not specified**

PanEDM

Wednesday, 16 September 2020 15:00 (25 minutes)

Presenter: Prof. DEGENKOLB, Skyler

Session Classification: Dipole Moments Day 2

Contribution ID: **12** Type: **not specified**

Storage Rings for the Search of Charged Particles Electric Dipole Moments

Wednesday, 16 September 2020 15:25 (25 minutes)

Presenter: Prof. LENISA, Paolo (University of Ferrara and INFN - Italy)

Session Classification: Dipole Moments Day 2

Contribution ID: **13** Type: **not specified**

Proton EDM

Wednesday, 16 September 2020 15:50 (25 minutes)

Presenter: MORSE, William (BNL)

Session Classification: Dipole Moments Day 2

Contribution ID: **14** Type: **not specified**

225Ra EDM

Wednesday, 16 September 2020 16:45 (25 minutes)

Presenter: DIETRICH, Matthew (Argonne National Lab)

Session Classification: Dipole Moments Day 2

Contribution ID: **15** Type: **not specified**

129Xe EDM: Progress and Prospects

Wednesday, 16 September 2020 17:10 (25 minutes)

129Xe is a diamagnetic atom that provides a nuclear spin system to probe P-odd/T-odd physics that is complementary to that in other systems. We have been pursuing 129Xe EDM measurements with 3He comagnetometry, most recently using SQUIDS to detect free precession of both species and have set a new upper limit and have a roadmap for significant future improvements. I will discuss the role of 129Xe in the EDM landscape, describe our recent measurement and suggest improvements for future measurements.

Presenter: CHUPP, Timothy (University of Michigan)

Session Classification: Dipole Moments Day 2

Contribution ID: **16** Type: **not specified**

ThO EDM

Wednesday, 16 September 2020 17:35 (25 minutes)

Presenter: Prof. GABRIELSE, Gerald

Session Classification: Dipole Moments Day 2

Contribution ID: **18** Type: **not specified**

Overview g-2 theory

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

Presenter: HOFERICHTER, Martin (Institute for Nuclear Theory, University of Washington)

Session Classification: Dipole Moments Day 3

Contribution ID: **19** Type: **not specified**

Electron g-2 and prospects for future alpha measurements

Thursday, 17 September 2020 15:50 (25 minutes)

Presenter: Prof. GABRIELSE, Gerald

Session Classification: Dipole Moments Day 3

Contribution ID: **21** Type: **not specified**

Muon g-2 at JPARC

Thursday, 17 September 2020 17:00 (25 minutes)

Presenter: MIBE, Tsutomu (KEK)

Session Classification: Dipole Moments Day 3

Contribution ID: **22** Type: **not specified**

Muon g-2 at Fermilab

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

Presenter: BHATTACHARYA, Meghna (University of Mississippi)

Session Classification: Dipole Moments Day 3

Contribution ID: **24** Type: **not specified**

Snowmass Early Career Overview

Wednesday, 16 September 2020 16:35 (10 minutes)

Presenter: BARROW, Joshua (The University of Tennessee)

Session Classification: Dipole Moments Day 2

Contribution ID: **26** Type: **not specified**

Neutrino dipole moments

Thursday, 17 September 2020 16:35 (25 minutes)

Presenter: MIRANDA, Omar (Cinvestav)

Session Classification: Dipole Moments Day 3

Contribution ID: **27** Type: **not specified**

Muon EDMs

Thursday, 17 September 2020 15:00 (25 minutes)

Presenter: PRICE, Joseph (University of Liverpool)

Session Classification: Dipole Moments Day 3

Contribution ID: **28** Type: **not specified**

Announcement

Wednesday, 16 September 2020 14:58 (2 minutes)