

Charged Lepton Flavor Violation - Parallel sessions

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RPF Frontier Meeting

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Welcome to the Charged Lepton Flavor Violation group (TG5) parallel session

During these two days, we will have

- Presentation of the various white papers (Tuesday)
- Presentation and discussion of the TG5 report (Wednesday)

Unfortunately, neither Sacha nor myself can be attending this meeting in person, so Andy Edmonds has kindly agreed to chair these sessions (many thanks). We realize that our interactions might be a bit more complicated due to our remote participation, and we thank you for your understanding and cooperation.

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White papers of interest to the CLFV group

Title	Editor	Arxiv
Experimental Searches for Muon to Electron Conversion in a Nucleus: COMET, DeeMe and Mu2e	S. Middleton	2203.07089
The Mu3e Experiment	G. Hesketh	2204.00001
Muonium to antimuonium conversion	A. Petrov	2203.11406
Tau decays and transitions	S. Banerjee	2203.14919
Mu2e-II: Muon to electron conversion with PIP-II	F. Porter	2203.07569
A New Charged Lepton Flavor Violation Program at Fermilab	B. Echenard	2203.08278
The MEG experiment upgrade	A. Papa	In preparation
Charged Lepton Flavour Violations in Heavy Particle Decays	M. Dam	In preparation
Design Considerations for FNAL Multi-MW Proton Facility in the DUNE/LBNF era	J. Eldred	2203.08267

CLFV and quark flavor generally discussed in TG1/2

TG5 – Tuesday parallel session

Introduction and orientation	<i>Bertrand Echenard et al.</i>
CLFV Theory	<i>Julian Heeck</i>
<i>Taft II, Westin</i>	11:05 - 11:40
Current muon decay and conversion experiments	<i>Sophie Middleton</i>
Muonium-antimuonium transitions	<i>Alexey Petrov</i>
The Mu2e-II proposal	<i>Mete Yucel</i>
Next generation muon facility at FNAL	<i>Kevin Lynch</i>
CLFV in tau decays	<i>Swagato Banerjee</i>
CLFV in heavy state decays	<i>Wolfgang Altmannshofer</i>

We are on a rather tight schedule, and we would appreciate if the speakers and audience could make every effort to stay on time. We ask that the audience wait until the end of the talk to ask questions (or during the breaks if we run out of time)

TG5 – Wednesday parallel session

Wednesday will be devoted to discussing the content of the TG5 report

- Summary of the white papers
- Discuss the physics / facilities without prioritization but with some emphasis on the US program

The report is available here:

https://www.dropbox.com/s/605urz8ty9s8gei/Snowmass_TG5_report_11May.pdf?dl=0

So far, we have received comments from a few readers, we encourage you to read this report and send your thoughts.

There are still a few open questions regarding the content of the report. Our goal is to converge on this question by the end of the meeting. We will have more time for minor corrections afterwards.

Charged Lepton Flavor Violation Topical Group Report

1. Executive summary
2. Introduction
3. Effective field theory
4. Muon experimental overview
 1. Muon Flavor Violation Experiments in this Decade (muon decays, conversion and muonium-antimuonium oscillations)
 2. Future initiatives and next-generation facilities (Mu2e-II and AMF)
5. Tau experimental overview
 1. Tau Flavor Violation Experiments in this Decade (Belle II, LHCb)
 2. Future initiatives and next-generation facilities (SCTF, EIC, FCC-ee)
6. Heavy state experimental overview (Z, Z', Higgs, top, BSM)