

Workshop on Tau Neutrinos from GeV to EeV (NuTau2021)

Introduction

Sep 28th – Oct 1st 2021 (virtual)

Mary Bishai (BNL, Chair), Julia Gehrlein (BNL, Co-chair), Adam Aurisano (U. Cincinnati), Peter Denton (BNL), Andre de Gouvea (Northwestern), Irina Mocioiu (Penn State), Stephanie Wissel (Penn State)

Tuesday Sept 28th , 2021

    @BrookhavenLab

Workshop Goals

In the next generation of planned and proposed experiments and observatories there will be unique opportunities to extend our knowledge of the tau neutrino and its interactions from GeV to EeV scales. The goals of NuTau2021 are as follows:

- Summarize the state of knowledge of tau neutrinos
- Examine the theory opportunities provided by current and future studies of tau neutrinos
- Explore the capabilities of future experiments to advance our knowledge of tau neutrinos and explore the complementarity between them
- Explore the connections of tau neutrinos to astrophysics and cosmology
- Understand the impact of advancements in the understanding of the tau neutrino on its use as a cosmological probe
- *Launch the effort to prepare a comprehensive Snowmass 2021 Whitepaper on tau neutrinos.*

A few words about Snowmass 2021

- The Particle Physics Community Planning Exercise (a.k.a. “Snowmass”) is organized by the Division of Particles and Fields (DPF) of the American Physical Society (APS). Snowmass is a scientific study. It provides an opportunity for the entire particle physics community to come together to identify and document a scientific vision for the future of particle physics in the U.S. and its international partners.
- Snowmass is an international effort given the global nature of the US particle physics community.
- The engagement of early career scientists in the Snowmass 2021 effort is a key driver. The vision to be executed is their future.
- ***Scientific input from Snowmass is used to develop a strategic plan for U.S. particle physics that can be executed over a 10 year timescale, in the context of a 20-year global vision for the field.***

More information on Snowmass 2021 can be found at snowmass.org

Some Workshop Logistics

- The workshop will be conducted virtually on zoom. Registrants will be provided with a zoom connection information via email. Email Tracy Trent (ttrent@bnl.gov) if you did not receive the zoom link.
- All presentations are plenary (see agenda at <https://indico.bnl.gov/event/10495/>) from 9:30AM – 3:30 PM US Eastern Time (GMT-4)
- We recommend that questions on the presentations be reserved till after the presentation is done. We have assigned discussion sessions for longer discussions on particular topics.
- Please upload your presentations a few hours before your talk so they are posted beforehand. Send the presentations to Tracy Trent (ttrent@bnl.gov) if you don't have access to indico.
- The workshop will not be recorded, but each session will be assigned a note taker. The minutes will be posted publicly on indico after each session. Discussions on zoom chat will also be saved and posted.
- There will be several themed breakout rooms available for discussions on zoom. Participants can move between the main event and breakout rooms without restrictions.
- There will be a Whitepaper discussion on Tuesday afternoon.
- **There will be daily whitepaper writing sessions from 3:30-5:30pm US ET in the assigned breakout rooms. All interested contributors please contact Peter Denton (pdenton@bnl.gov)**
- A read only draft of the Whitepaper is available at <https://www.overleaf.com/read/khpgmxdccwv>

Lets Get to Work!