

The logo for Snowmass 2021 is displayed on a dark grey rectangular background. The text "Snowmass2021" is written in a stylized, cursive font. "Snow" is in a light blue color, "mass" is in white, and "2021" is in a light grey color.

Snowmass2021

# *A Primer*

from the **Snowmass Topical Group on Neutrino Properties (NF05)**

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# What is Snowmass?

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- The **US particle-physics planning process** has several phases:
  - ◆ **Community planning** (“**Snowmass**”): Massive year-long discussion culminating in a 1000+-physicist meeting in July 2021. Capture the questions, challenges and new ideas across the field – **not only in the US but around the world.**
  - ◆ **Strategic advice** (“**P5**”): Particle Physics Project Prioritization Panel shapes community input into strategic 10-year plans for differing US budget scenarios
  - ◆ **US funding decisions** (**DOE and NSF**): advised by High Energy Physics Advisory Panel (**HEPAP**) which commissions P5 report
- Last Snowmass process: 2013 (P5 report followed 2014)
  - ◆ Last-but-one was in 2001

# Snowmass 2021 Frontiers

## Ten Frontiers:

- Energy
- ★ **Neutrino**
- Rare Processes and Precision Measurement
- Cosmic
- Theory
- Accelerator
- Instrumentation
- Computational
- Underground Facilities
- Community Engagement

## ★ Neutrino Frontier Topical Groups:

- NF01: Neutrino oscillations
- NF02: Sterile neutrinos
- NF03: Beyond Standard Model
- NF04: Neutrinos from natural sources
- **NF05: Neutrino properties**
- NF06: Neutrino int. cross sections
- NF07: Applications
- NF08: Theory of neutrino physics
- NF09: Artificial neutrino sources
- NF10: Neutrino detectors

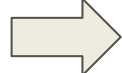
# NF05 Summer Mini-Workshop Series

◆ <https://indico.fnal.gov/category/1172/>

Date	Subject
8 July	Direct neutrino mass measurements
15 July	Particle theory of neutrinoless double-beta decay
22 July	Nuclear theory of neutrinoless double-beta decay
5 August	Neutrinoless double-beta decay experiment I
12 August	Neutrino electromagnetic properties
19 August	Neutrinoless double-beta decay experiment II

# Main Activities

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- July 17: online Neutrino Town Hall
  - ◆ <https://indico.fnal.gov/event/43581/>
- August 31: **Letters of Interest** ( $\leq 2$  pages, not counting references)
  - ◆ **Precursors** to longer proposals or white papers (useful but not necessary)
  - ◆ Used to **help probe community interest and plan Snowmass**
  - ◆ Please list a corresponding author (just in case)
- July 31, 2021: **Contributed papers** (any length; executive summary strongly encouraged for long ones)
  - ◆ Part of **Snowmass proceedings**  input to strategy
  - ◆ White papers, proposals, new results, arguments for prioritization
- October 5 – 9: **Community Planning Meeting** (online)
- Spring 2021: **Neutrino Planning Meeting** (probably online)
- July 11 – 20, 2021: **Snowmass main meeting** (UW, Seattle)

# Join the Discussion

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- **Mailing list:**

- ◆ Send an email to

- [listserv@listserv.fnal.gov](mailto:listserv@listserv.fnal.gov)

- with empty subject line, and body text:

- subscribe SNOWMASS-NF05-PROPERTIES Your Name*

- **#neutrino\_properties** and **#neutrino** channels on **Snowmass slack:**

- <https://snowmass2021.slack.com/>

# Useful Links

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- ◆ Main Snowmass site:
  - ◆ <https://snowmass21.org/>
  - ◆ Neutrino Properties: <https://snowmass21.org/neutrino/properties/start>
  - ◆ Letters of Intent: <https://snowmass21.org/loi>
  - ◆ Contributed Papers: <https://snowmass21.org/submissions/start>
- ◆ Neutrino Agenda: <https://indico.fnal.gov/category/1101/>
- ◆ Documents from Snowmass 2013 (neutrinos in Intensity Frontier)
  - ◆ <https://www.slac.stanford.edu/econf/C1307292/docs/IntensityFrontier.html>