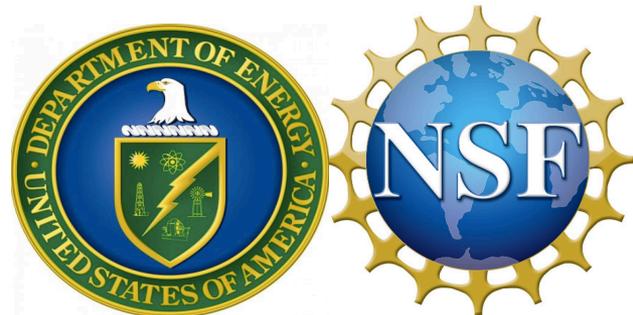


HEPAP Status Evaluation of the Execution of the P5 Report: Process Description

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HEP Strategic Planning Process

The U.S. High Energy Physics program is guided by the strategic plan laid out in the 2014 P5 report

- Time sequence:
 - “**Snowmass**” **2013**: a year-long community-wide study of science opportunities, organized by the Division of Particles and Fields of the American Physical Society
 - **Particle Physics Project Prioritization Panel (P5) 2014**: HEPAP subpanel, prioritized scientific opportunities outlined in the Snowmass study within a budget framework
- Dovetails with
 - 2010 Astronomy & Astrophysics Decadal Survey
 - 2013 European Strategy for Particle Physics

Process defines strategic plan for U.S. HEP for the decade

Particle Physics Project Prioritization Panel (P5)

Scientific advisory panel (subpanel of HEPAP) tasked to develop a strategic HEP plan to be executed in 10-yr timeframe, in the context of a 20-yr global vision for the field

- Examine current, planned and proposed research capabilities and assess
 - Role & potential for scientific advancement
 - Uniqueness & scientific impact in global context
 - Time & required resources to achieve stated goals
- Provided with 3 budget scenarios to work within
 - Necessitated hard choices
- Community “Snowmass” study served as invaluable input

P5 Science Drivers

- Use the Higgs boson as a new tool for discovery
- Pursue the physics associated with neutrino mass
- Identify the new physics of dark matter
- Understand cosmic acceleration: dark energy and inflation
- Explore the unknown: new particles, interactions, and physical principles

Science drivers are not prioritized

- They are intertwined and dependent on each other
- Vision to address the science drivers represents the P5 plan



Project-specific Recommendations

Recommendations 10-22 address projects related to the 5 science drivers (not a one-to-one mapping!)

- Near-term and mid-term high-energy colliders
- Neutrino oscillation experiments
- Cosmic surveys
- Dark Matter experiments
- Muon and B-physics experiments

The P5 plan in one glance: Building for Discovery



P5 Plan in 2019

2019 is halfway into the 10-yr strategic plan detailed in the 2014 P5 Report

- Investments in the 2014 P5 plan are being made by
 - HEP community
 - U.S. funding agencies DOE and NSF
 - U.S. Congress
 - International partners
- Useful to evaluate the progress on this investment
 - Status of the implementation of the P5 vision
 - Status of the science drivers in 2019
 - Checks and balances in carrying out the plan

The P5 Report is a HEPAP Report

From the HEPAP Charter

The Panel activities include:

periodic reviews of the program and recommendations of any changes considered desirable on the basis of scientific and technological advances or other factors such as current projected budgets and status of other international high energy physics efforts

The charter empowers HEPAP to review the progress on implementing the recommendations contained in the P5 report

Criteria for Assessment

Based on progress of implementation of the P5 recommendations

- Realization of science impact
- Engagement of global partners
- Sustained productivity – science results and construction of projects
- Balance of project scales
- Balance of components: research, operations, & projects

Evaluation Process

HEPAP will conduct the evaluation in two stages:

1. Self-assessment by the agencies of the implementation status
 - Spring 2019
2. Assessment of the physics landscape in 2019
 - Spring 2019
3. Assessment by the community: science drivers and project status
 - Fall 2019

HEPAP will transmit a letter of the panel's findings to the agencies
in Fall 2019