

Pillar 2 roadmap summary

CHIPP workshop Kandersteg August 20220

Intro

- Neutrino physics is firmly established as prime research topic and one of the three pillars of particle physics in Switzerland
- Neutrinos have, furthermore, an important role in the Swiss research on cosmology and astro-particle physics, as they are messengers of the far universe and as well for their large abundance in the universe and their possible role as hot dark matter
- Neutrino physics has a long history in Switzerland with groundbreaking experimental and theoretical work
- Currently the Universities of Basel, Bern, Geneva, Zürich and the ETHZ are actively involved in this research
- Neutrino oscillation physics, astroparticle neutrinos, Onubb

Roadmap (2021-2024, 2025-2028, to 2036ish)

- Concrete physics goals for the next decade...
 - CP violation δ_{CP}
 - Mass hierarchy
 - Nature of the neutrino
 - Absolute neutrino mass
 - Exotic neutrinos and astroparticle neutrinos
- ... and facilities being exploited and in construction
 - Short-baseline and T2K for oscillation measurements
 - DUNE and HK for CP violation and hierarchy (plus SN), complementary
 - LEGEND as one of the main 0nubb experiments
 - IceCube for high energy atmospheric neutrinos, multimessenger
- Synergies to other pillars
 - DARWIN
 - FASERnu

**Swiss scientist very well positioned
Will play major roles**

