

Benno List, Christophe Grojean, Christian Schwanenberger, <u>Jenny List</u> 35th Future Colliders @ DESY meeting 07 March 2025





CLUSTER OF EXCELLENCE QUANTUM UNIVERSE



• ESPPU:

Open Symposium re-emphasized FCC-ee as the first choice for a new flagship project at CERN. Alternatives discussed for the case that FCC-ee will not be financially feasible or scientifically competitive comprise a Linear Collider, LEP3, LHeC. New hadron collider directly ~28 BCHF. MuonCollider not sufficiently ready.

• Germany:

KET decided that there will be no further update of the German ESPPU input for the November deadline

• US:

National Academies Report was submitted yesterday on 11 June <u>https://nap.nationalacademies.org/catalog/28839/elementary-particle-physics-the-higgs-and-beyond</u> (Note that this report goes to DoE, NSF and also, contrary to the P5 report, Congress) with two main recommendations:

- Recommendation 1: The United States should host the world's highest-energy elementary particle collider around the middle of the century. This requires the immediate creation of a national muon collider research and development program to enable the construction of a demonstrator of the key new technologies and their integration.
- Recommendation 2: The United States should participate in the international Future Circular Collider Higgs factory currently under study at CERN to unravel the physics of the Higgs boson.

News HALHF

- HALHF plan for a "pre-CDR" by April 2026
- new workpackage structure being set up volunteers invited!
- Supergroups (DESY people involved probably not complete):
 - G: Global design issues (B. Foster, M. Thevenet)
 - Global optimization and coordination
 - Global self-consistent start-to-end simulation
 - P: PWA (K. Poder, J. Wood, S.Bohlen)
 - PWFA linac
 - Plasma heating and cooling
 - PWFA driver distribution and delays and combiner rings
 - Driver dumping and radiation safety

- C: Other Accelerator Systems (G. Moortgat-Pick, M.Trautwein, M.Formela, N.Hamann)
 - RF driver linac
 - BDS & collimation
 - Damping rings
 - Polarized positron source
 - Positron RF linac
 - Structure acceleration and alternatives to klystrons
 - · civil engineering and sustainability
- D: Physics & Detector (J.List, M.Wing, G. Moortgat-Pick, J.Reuter)
 - Physics
 - Asymetric Detector
 - IP Beam Dynamics



- FCC-ee workshop on particle flow reconstruction, 1-5 September at CERN.
- October 20-24, Valencia: LCWS2025 https://agenda.linearcollider.org/event/10594/
- the 2026 FCC week will take place in Helsinki 8-12 June



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Next FC@DESY date: September 5 2pm, SemRm 2 — let us know your suggestions!