



Accelerator Frontier: Brief Update

Vladimir SHILTSEV (Fermilab) on behalf of AF conveners

Fermilab 54th Users Meeting

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SnowMass2021

Accelerator Frontier – Main Thrusts and Activities

- **Physics (AF1)** – ultimate beams – ee/pp/ $\mu\mu$; facilities beyond IOTA
- **Proton/ ν / μ Factories (AF2)** – 2.4 MW and beyond at Fermilab
- **Higgs Factories (AF3)** – high-lumi ILC; FNAL site fillers ee/ $\mu\mu$ / $\gamma\gamma$
- **Energy Frontier (AF4)** – Muon Collider Forum (joint with EF), MCC
- **PBC and Rare Processes (AF5)** – post mu2e opportunities
- **Advanced Colliders (AF6)** – practical 1-3 TeV plasma colliders, 10?
- **Core Technologies (AF7)** – magnets (16T, fast), SRF (efficiency and cost), targets (multi-MW, special)
- **Implementation Task Force (ITF)** – developing metrics for feasibility analysis and comparison of 8 Higgs factories and 20 multi-TeV collider proposals

- **329 Lols in 2020...** → “Pause” since Jan’21 – some work in AF1, AF4, AF7, ITF → Restart in August – MC Forum, regular TGC meetings, ~28 TG workshops/meetings → **O(50) White Papers**
- Join us! <https://snowmass21.org/accelerator/>

AF Topical Groups - Contacts at Fermilab

- Physics (AF1) – S.Nagaitsev, V.Shiltsev
- Proton/ ν / μ Factories (AF2) – R.Zwaska
- Higgs Factories (AF3) – S.Belomestnykh
- Energy Frontier (AF4) – A.Valishev, D.Stratakis
- PBC and Rare Processes (AF5) – E.Prebys*
- Advanced Colliders (AF6) – V.Shiltsev
- Core Technologies (AF7) – F.Pellemoine (targets),
A.Zlobin (magnets), S.Belomestnykh (RF)
- Implementation Task Force (ITF) – J.Strait, V.Shiltsev

Liaisons : L.Fields (Neutrino F.), R.Bersntein (Rare Proc. F.)
S.Jindariani (MC-Collaboration), P.Bhat (Collider Group)