First ECFA WORKSHOP.

Contribution ID: **104** Type: **Parallel session talk**

A Particle Identification Framework for Future Higgs Factories

Thursday 6 October 2022 15:00 (15 minutes)

The particle physics community has concluded that the next collider should be a Higgs factory with the ability to also produce a large number of W and Z bosons. In the ongoing discussions it has become increasingly clear that particle identification including charged hadron ID is a key feature that enables a number of analyses and improves many. A number of different PID systems - from the simple muon ID to gaseous dE/dx and dN/dx to calorimeter shower shapes and time of flight (and more) - are being envisioned for the proposed FHF detector concepts. It is desirable to assess their impact and the effect of combining them in a common tool to enable fair comparisons.

This talk presents a new modular approach to a generic PID framework for the different possible FHFs. It discusses implementation questions, performance measures and possible physics applications, exampling the International Large Detector (ILD) concept for the International Linear Collider (ILC).

Primary author: EINHAUS, Ulrich (FTX (Fachgruppe SLB))

Presenter: EINHAUS, Ulrich (FTX (Fachgruppe SLB))

Session Classification: WG 2: Physics Analysis Methods

Track Classification: WG2 - Physics Analysis Methods