

Flavor Tagging Tools: Status and Plans

LCFI+

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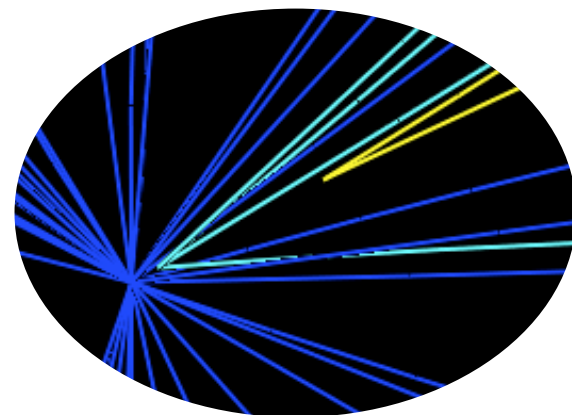


- **LCFI+ used successfully in DBD (SiD & ILD)**
- **Currently being addressed:**
 - effect of beam-related backgrounds
 - vertex charge construction
 - vertex finder kernel (speed vs. performance)
- **Plans, ideas, nice-to-have's:**
 - ensuring tracks have proper covariant vertices
 - use of track hit information: refit vertex
 - use of cluster information: particle ID ?

Extra Slides



- Flavor tagging crucial at LC:
 - e.g. $h \rightarrow bb/cc$, $t \rightarrow bW$, $H^0 A^0 \rightarrow bbbb$
- Challenges:
 - environment with **many jets**
 - reconstructing **secondary** and **tertiary** decays
- The software:
 - **LCFIVertex** [NIM A 610 573 (2009)]
 - used in ILC LOI, CLIC CDR
 - Evolved into **LCFI+**
 - used successfully by **both SiD and ILD** in DBD studies



<https://confluence.slac.stanford.edu/display/ilc/LCFIPlus>

