

Flavor Physics Options

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Flavor Physics at Fermilab

- Critical questions:
 - ❑ Will the physics be important in a global context when the experiment is done?
 - ❑ Can it be done *uniquely* or *substantially better* at Fermilab than at other labs?
 - ❑ Is the experiment unique in its physics reach?
- At the f2f meeting, we discussed 3 scenarios in the context of ILC timeline

Scenarios

- ILC on fast track
 - Likely little room for anything else. Possibly a small-scale experiment
 - ☞ E.g. pbar experiment: hyperon CP, spectroscopy
- ILC on medium or long timescale
 - Opportunity for rich program of muon and kaon physics in near and longer term. “YES” to all 3 questions above
 - ☞ $\mu \rightarrow e$ conversion
 - ☞ $K^{(+/0)} \rightarrow \pi^{(+/0)} \nu \nu$ (KTeV-II and III)

Project X

- Big-ticket items on our plate
 - SuperB factory
 - ☞ Relevant and important, but not necessarily unique
 - ☞ Could conceivably become Project X if neither Italy nor Japan go ahead with their plans.
 - Giga-Z
 - ☞ Focus on precision EW measurements
 - ☞ Could be a stepping stone towards the ILC
 - ☞ Requires community-wide input on physics reach, relevance in LHC era, physics requirements (e.g. positron polarization)