

# ***Polarization session @ Vienna 11/05***

**Tuesday session, 14-15.30 (FJ2)**

## **● Physics: CP violation at the ILC**

→ **Stefan Hesselbach: CP-violation with longitudinally and transversely polarized beams**

**Discussion:**

→ **for which cases is  $P(e^-) \equiv P(e^+)$  needed?**

→ **other issues which might be important now?**

## **● E166 results**

→ **Ralph Dollan: status about the experiment and preliminary results**

→ **Andreas Schaelicke: implementation of polarization in GEANT 4**

**Wednesday session, 16.30-18 (MTH)**

## **● Polarimetry and crossing angle**

# ***BDIR + Polarization***

**Wednesday session, 16.30-18 (MTH)**

- **Polarimetry**

  - **Peter Schueler: Upstream Polarimeter Update**

- **Discussion Crossing angle vs. polarization**

**Motto:**

**What are the open issues we have to solve very soon?**

**Who could do the needed calculations, simulations?**

**Goal:**

**→ Task list would be nice**

# Questions.....

- Does the crossing angle have implications for polarimetry?  
Upstream? Downstream?
  - Which level of backgrounds in extraction line could one tolerate for downstream polarimetry? Xing angle?
  - Is solenoid field homogeneity an issue? DID impact?
  - Spin tracking in the undulator? (a) depolarization of e- beam? b) spin precession +energy spread -> spin diffusion possible? c) spin precession+energy spread up the way to DR?)
  - What else?
- We send these question already to some experts, ..... and got an answer, (thanks a lot to Mike, Ken, Klaus and Klaus)

# Answers...

- **Mike:** Xing angle has implications for both -> vertical kinks at IP -> misalignment can use correctors to fix downstream, DID align then upstream. But Anti-DID messes up upstream alignment.
- **Mike:** downstream polarimeter needs significant studies for all Xing angles for background sensitivities
- **Mike:** very stringent homogeneity requirements in the barrel region

Numbers available?

Concerning spin tracking in undulator:

- **Klaus:** no depolarization in undulator, has already been calculated; under further investigation by Desmond
- **Klaus:** between undulator and DR --- should be no problem, but not yet studied

# ***Urgent To-Do List***

- **Topics.....**