Summary – Polarisation (POWER) Group

2 Sessions

- Thursday, 2 pm-3.30
  $\longrightarrow$ 'physics' session: discussion about polarisation report
- Friday, 4.30-6 pm
  $\longrightarrow$ combined session 'polarisation + BDIR': 3 talks+discussion

1st session: discussion about 'Polarisation Write-Up'

Participation via phone of Uriel Nauenberg!

Status and plans

- Our goal: provide 'compelling physics arguments' for polarised e^+
- a lot of changes have been made since Montpellier
- already more than 100 pages $\longrightarrow$ www.ippp.dur.ac.uk/~gudrid/power
- 'Physics' structure
  - general remarks about couplings, eff. polarisation etc.
  - Susy, ED, CI, GigaZ, etc.
  - examples with longitudinal and transversal polarisation
- Machine+polarimetry details
  - e^- polarisation: SLD
  - e^+ polarisation (laser-based, Daresbury helical design)
  - Polarimeter designs
  - Measurement via physics processes
- Still to be done: some topics in physics as well as machine but also an executive summary. . .
- Plans: shall be finished THIS month!
  $\longrightarrow$ Durham preprint number: DCPT-04-100, IPPP-04-50

2nd session: combined 'Power+BDIR'

Participation via phone from SLAC and Orsay!

We had three talks:

- Duncan Scott: Helical undulator Work in Daresbury
  undulator based positron source could provide the required e^+ flux for the ILC
  2 models based on SC and PPM technology are under construction
  $\longrightarrow$ exciting R&D times just ahead!
- Karim Laihem: CsI(TI) Calorimeter and status of the E166 experiment
  E166@SLAC: experiments for production of undulator based polarised e^+
  just now: installation work in the FFTB tunnel!
  1st data run in October'04, 2nd data run in January'05
  $\longrightarrow$ exciting experimental results just ahead!
- Fabian Zomer: Fabry-Perot cavity for the Compton polarimeter
  idea: Fabry-Perot cavity filled with a pulsed laser
  well suited for measuring polarisation bunch by bunch
  $\longrightarrow$ exciting new ideas for our ILC design are coming up!

We, i.e. Durham+Paris+SLAC, had a lively discussion about all these topics,
however, not all interesting topics were covered (e.g. crossing angle)! $\longrightarrow$ Newcastle
But the party is not yet over, we continue. . . ;-)

Plans of Power+BDIR

- Polarisation Write-Up will be finished soon
- Discussions will be continued online/onphone – around the world

→ weekly E166 phone calls

- Talks in BDIR only

→ Grahame Blair, Laserwire studies

→ Ilya Ginzburg, New suggestion on Beam-dumps

→ Heinz-Jürgen Schreiber, The energy spectrometer

→ Vladimir Drugakov, Influence of the Pile-Up on the Beamcal Performances

→ Philip Burrows, Update on the Feedback systems

→ Philip Bambade, Update on the BDIR matrix

- Discussion of BDIR matrix and world-wide collaboration; 'task forces'

→ planning international MDI/BDIR workshop in Autumn or January

→ 10 major areas being defined (urgent: crossing angle, 2 IR)

⇒ So, stay tuned for the next exciting news from POWER+BDIR!

Last but not least: thanks a lot to Lydia, Andrew, David and Mark for enabling such constructive discussions via conference phone, cds etc.!