

Report to the Coll

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Linear e^+e^- Collider

Currently discussions to prepare the European Strategy

In Germany several workshops happened. A summary was given beginning of May. Major statements (not for public yet)

- Full exploitation of the LHC (including HL LHC)
- Full support for BELLEII
- An e^+e^- collider with at least 500 GeV is of highest priority in the future

Future may be ILC or CLIC

We should be prepared for both projects

Circular e^+e^- collider

There are new circular collider projects coming up:

- CEPC Project in China
- FCC at CERN

I think these are long term future projects, funding initiatives?

Questions we may ask:

- Which are the requirements there?
- Are there interesting technological developments?
- Can we use synergies ?
- Will new people join us?

Possible engagement at LHC

Luminosity, beam optimisation, radiation monitoring will play an important role at HL-LHC

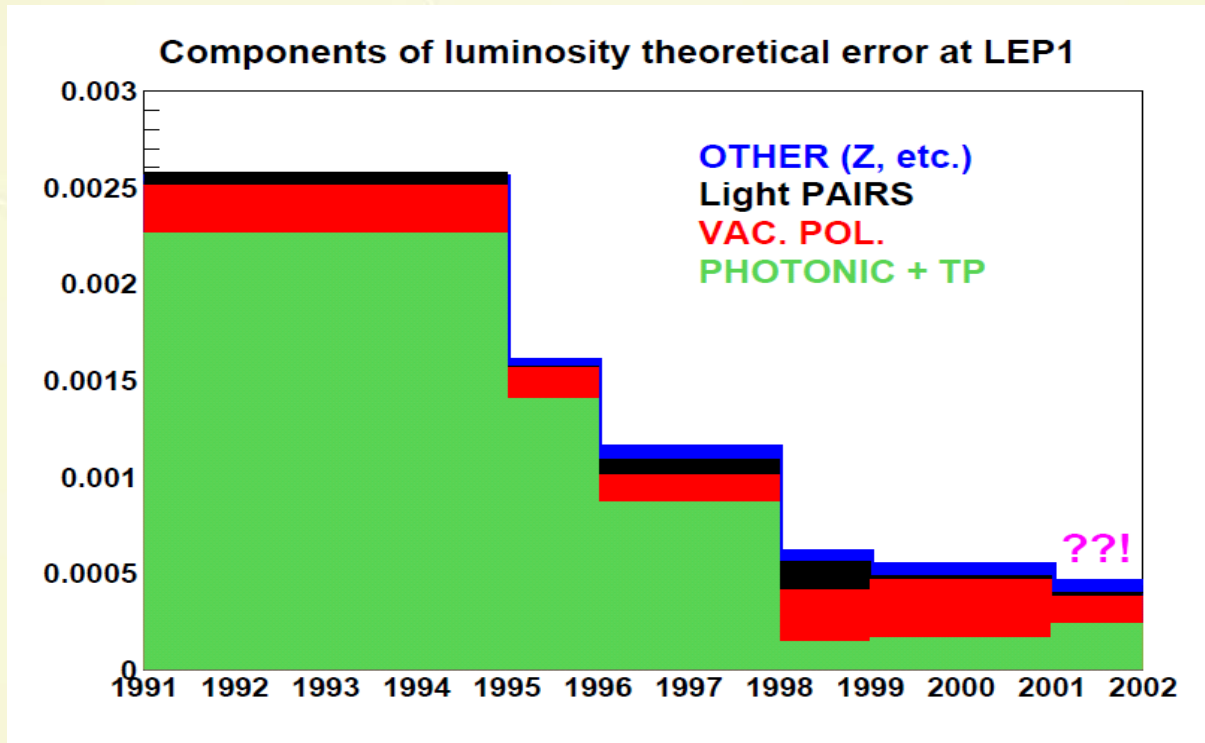
- Systems should be independent on power/readout of the detectors
- On-line bunch-by-bunch luminosity with high precision in short time slots
- At least two independent luminosity systems per experiment

Technologies we developed may be applied for these purpose. For students it might be interesting to appply the acquired expertise in a running experiment.

It should not seriously hamper FCAL

Bhabha Scattering

Theory uncertainties in the Bhabha cross section at LEP1 (S. JADACH, FCAL workshop Cracow 2006):



There is a lack of MC generators optimized for higher energies. Activities e.g. in JINR and University of Minsk may be interesting for us for application

FCAL specific issues

Major Topic: detector prototype for beam tests (2019/20)

- Sensors (available, but to be qualified)
- Absorber planes (available, but need mechanical integration)
- Detector plane (technology under development)
- ASICs (to be produced)
- DAQ with FPGA in preparation
- Laser alignment?

Test-beam: since CERN is not providing test-beam in 2019/20 it might be difficult to get beam-time at DESY.

FCAL specific issues

- Publications
 - Presence on conferences was very good.
 - Future topics?
 - One publication in „The European Physical Journal C“
 - New paper on irradiation studies
- Never finished topics
 - Calibration and alignment with muons (MC to be done)
 - CLIC timing, FE, readout, background → impact on performance
 - BeamCal/LumiCal performce in the new ILD software

Measurement of shower development and its Molière radius with a four-plane LumiCal test set-up

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FCAL funding

- Europe
 - National funding Agencies
 - AIDA 2020 (2020)
 - current JINR-BMBF program ends 2017, new application written, pending
- Chile
 - Angel got a grant
- US ???
- Japan, application not successful

Particularly difficult in some eastern Europe institutions,
People fro Kiev did not reply

What we do after AIDA 2020 ?????

Tribute to Leszek



Future of FCAL in IFJ PAN ??

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