

# SiLC Test beams

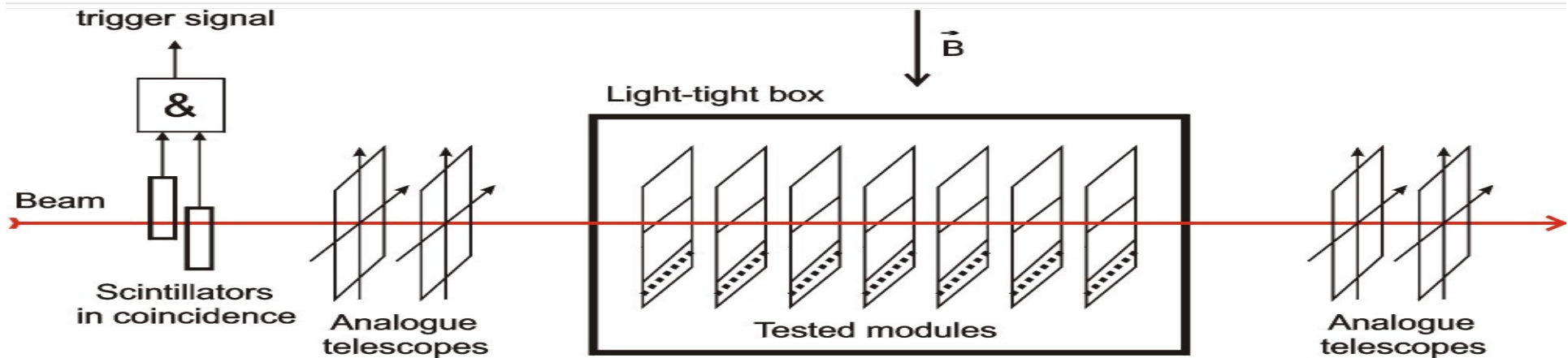
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# Beam tests

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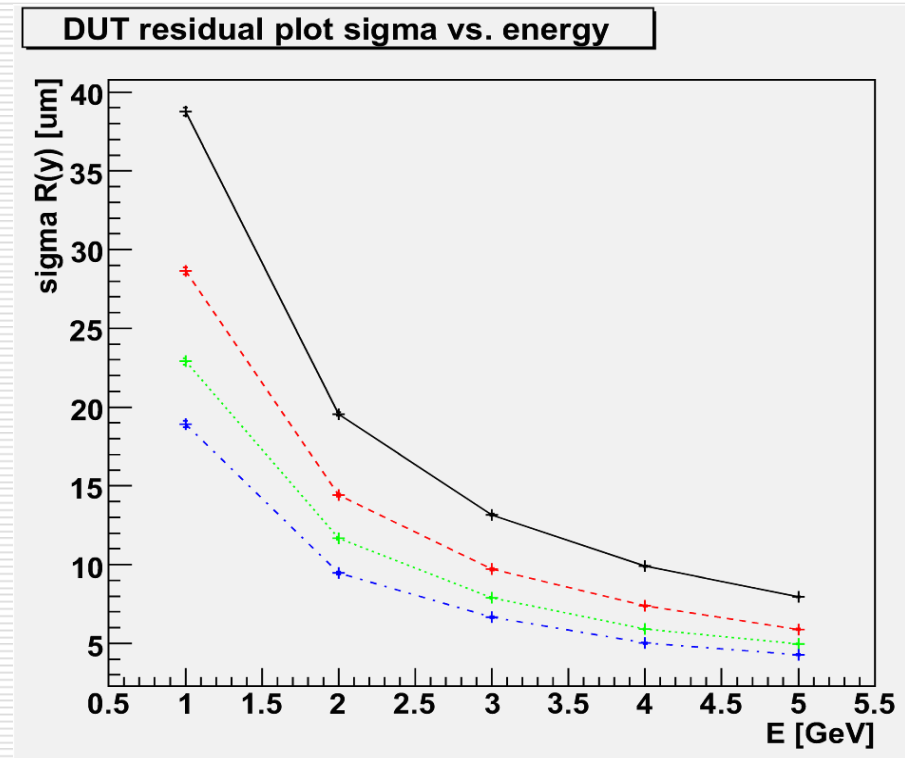
- Standard method of detecting performance evaluation
- Signal-to-noise measurement
- Precise spatial resolution and timing measurement



# Beams available

## □ DESY, 1-6 GeV e

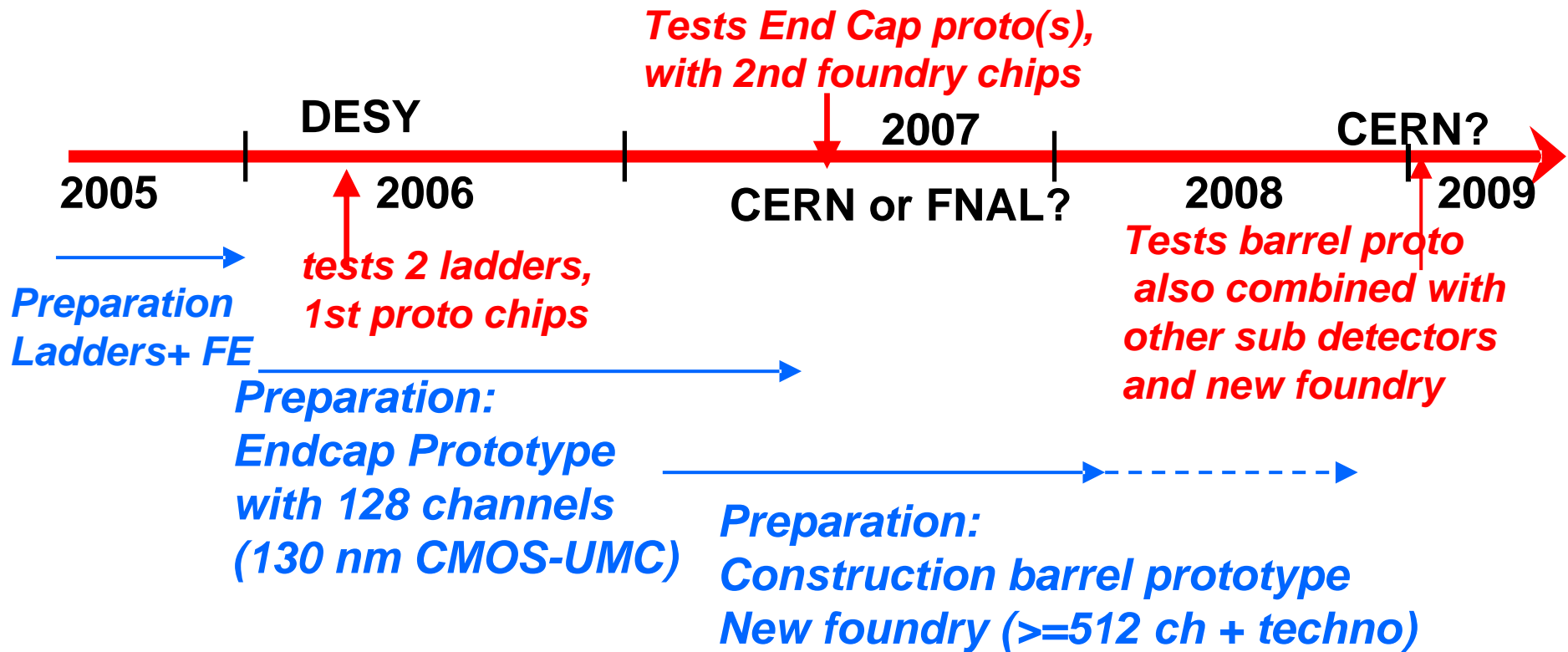
- Good access via EUDET
- Problem of multiple scattering (track precision  $>10 \mu\text{m}$ )
- G4 simulation (Prague)



# Beams available

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- CERN, 20-200 GeV  $\pi, \mu, e$ 
    - High quality beam
    - Restart of TB program 2006
    - Infrastructure? LHC groups?
  - FNAL
  - SLAC
  - KEK
-



*These coming 4 years: 2006 to 2009 will be essential to the development of this R&D: the test beams will be instrumental to test new ideas and new prototypes on all the different aspects of this R&D (sensors, electronics, & mechanics).*

*Look for **combined test** with other subdetectors.  
Synergy with LHC now and for future upgrade.*

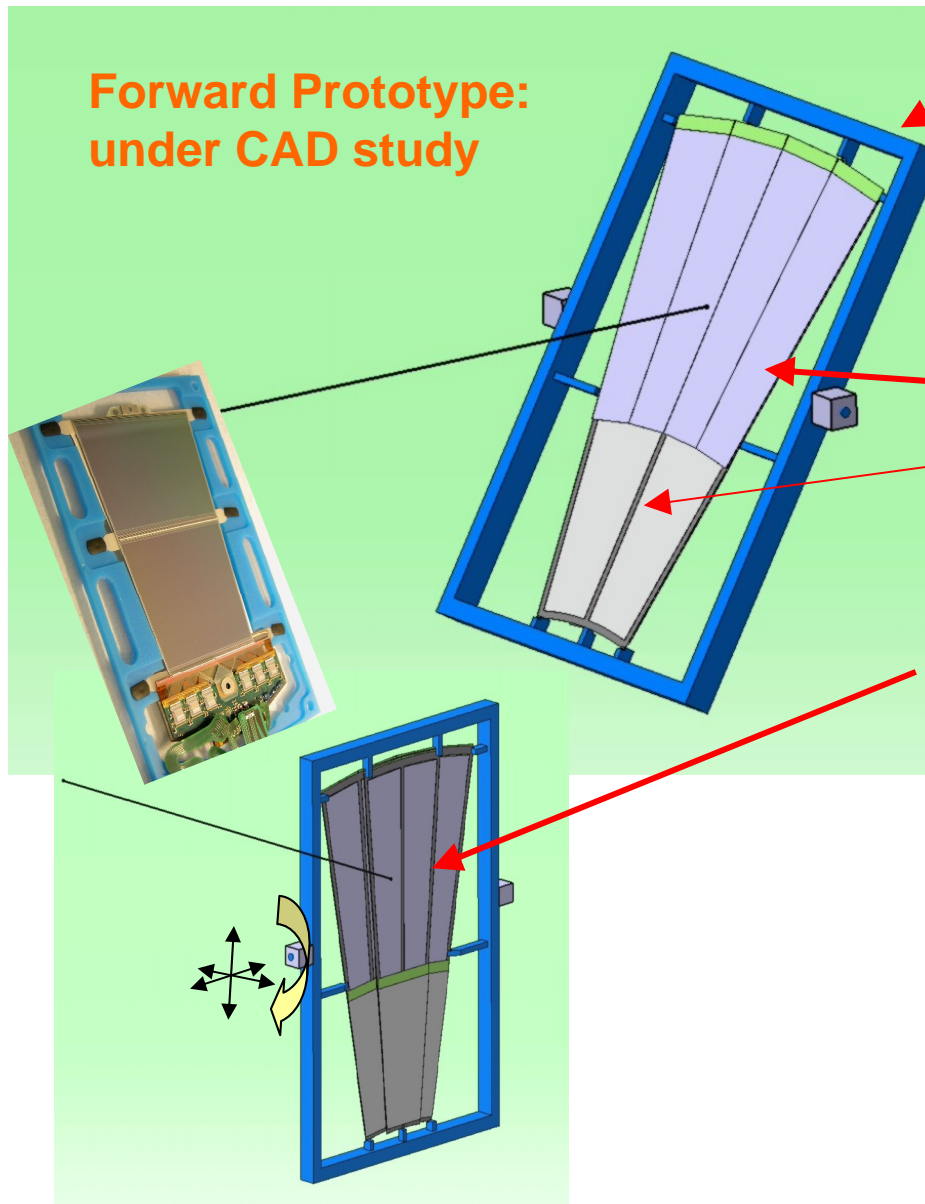
## **Test beam schedule (SiLC-EUDET)**

# What is needed?

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- Detecting modules
  - Trigger + DAQ
  - DAQ software
  - Telescopes
  - Chillers, climate chamber, XY stage
  - Manpower (experts, shifters)
  - Money
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# Test beam: Detector Prototypes



Support mobile

- Design (just started)
- Fabrication
- Assembling & Mounting

**Module with 3 sensors**

**Module with 2 sensors**

**Second layer partly covering the first one.**

**Total of 60 trapezoidal sensors,**

**About 10 K readout channels**

**Ready by end 2006/beg. 2007**

**Other prototypes: Ladders of different sizes and sensors**

# What is needed?

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- Detecting modules
    - Paris 2006, 2007
  - Trigger + DAQ
    - Paris 2006, 2007 (trigger synchronisation?)
  - DAQ Software
    - 2006: Paris + Prague + ???
    - 2007+ EUDET
  - Telescopes
    - 2006: Helsinki
    - 2007+ EUDET
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# What is needed?

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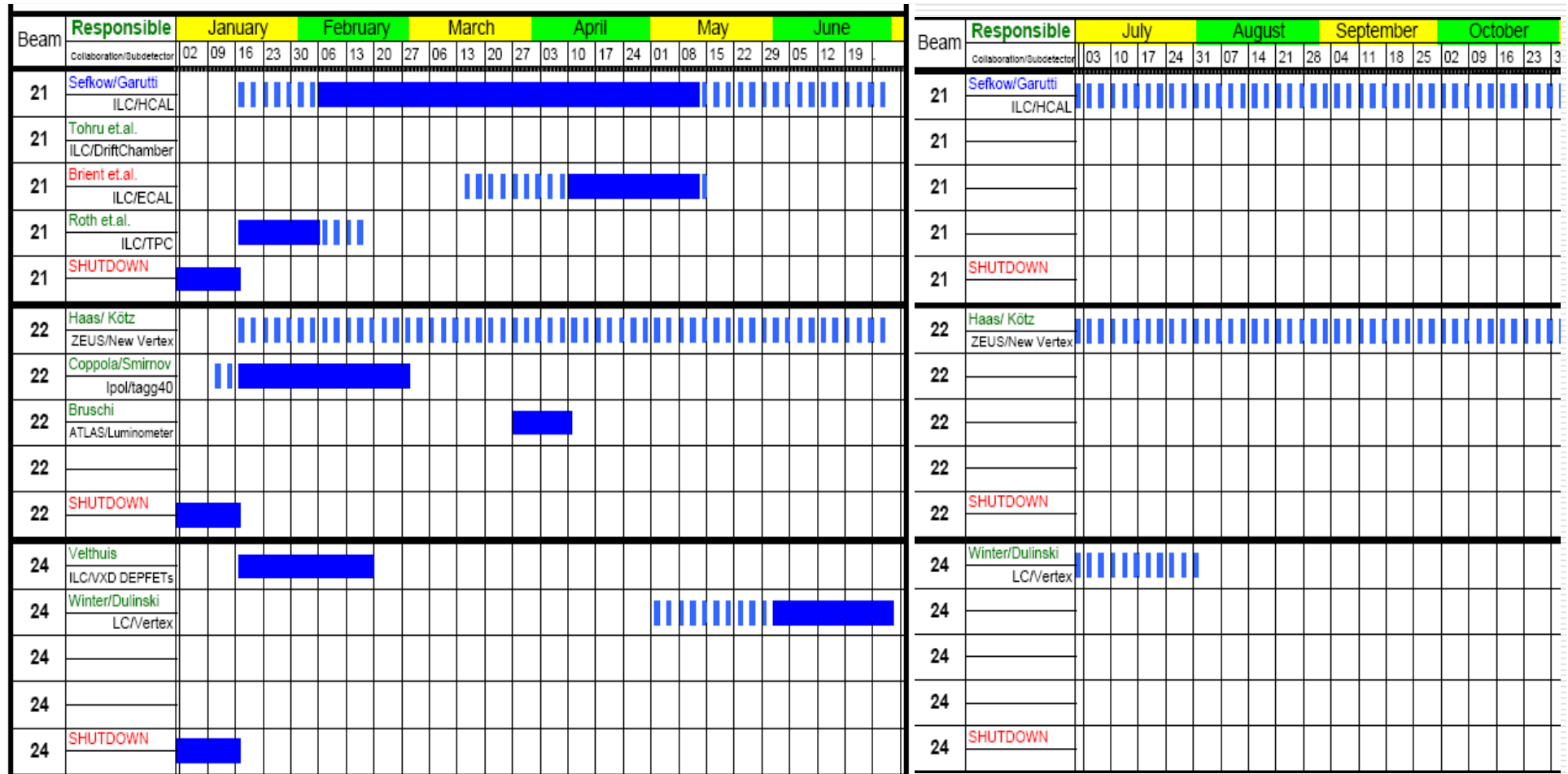
- Chillers, climate chamber, XY stage
    - institutes
    - EUDET 2007+
  - Manpower (experts, shifters)
    - ~20 SiLC institutes
  - Money: not for DESY beam
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# Plans for 2006

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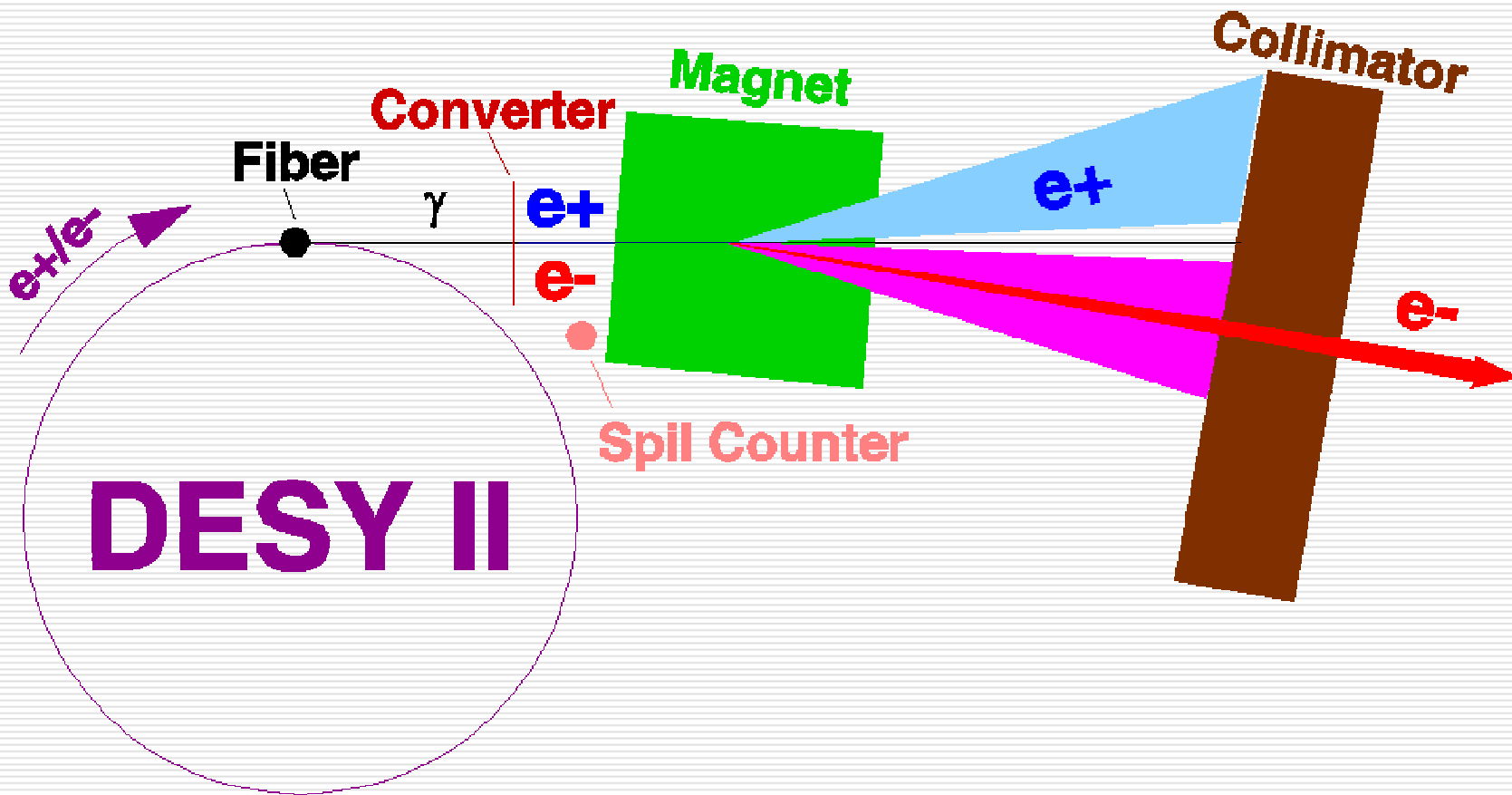
- DESY the only viable option
  - Stress on testing electronics, DAQ
  - To be solved:
    - DAQ
    - Telescope synchronisation
    - Mechanics
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# Timetable of DESY TB in 2006



# DESY: Beam generation

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# DESY Beam area



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