HERA Overview

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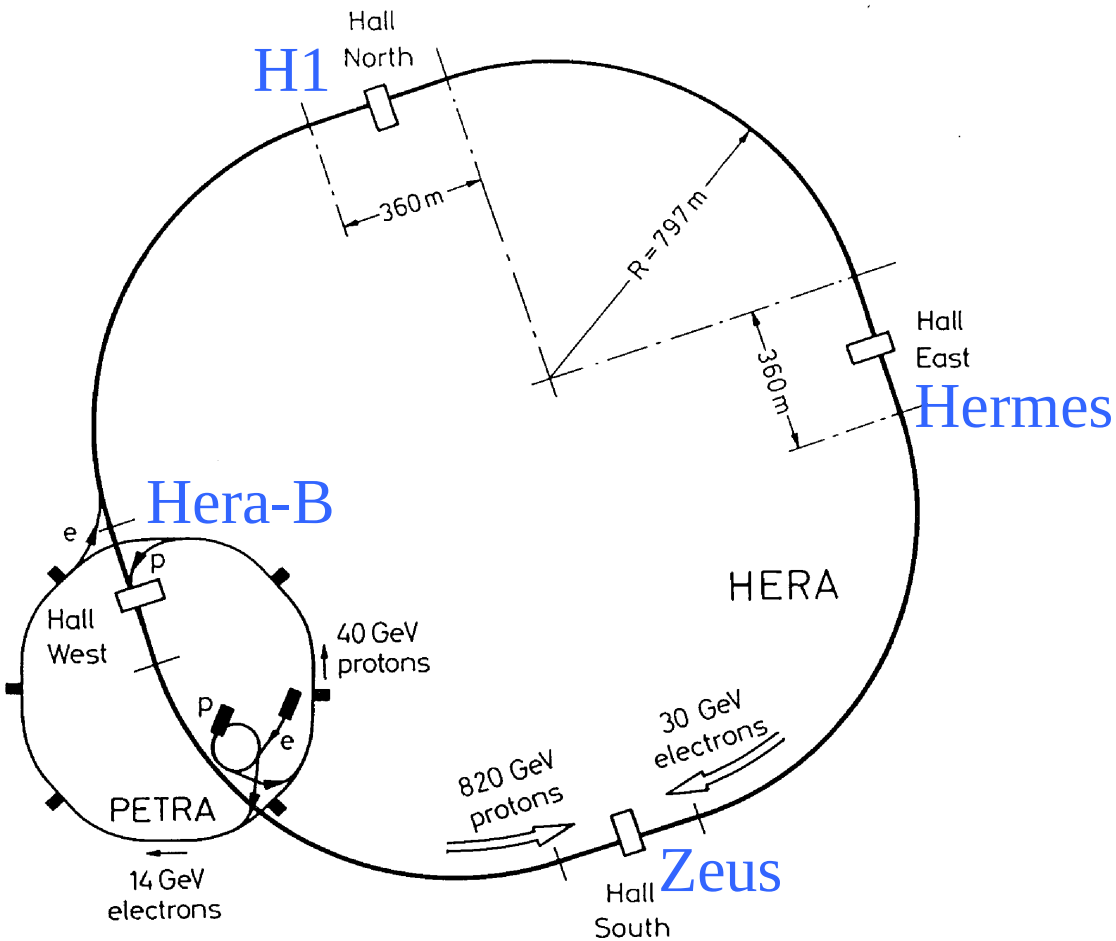
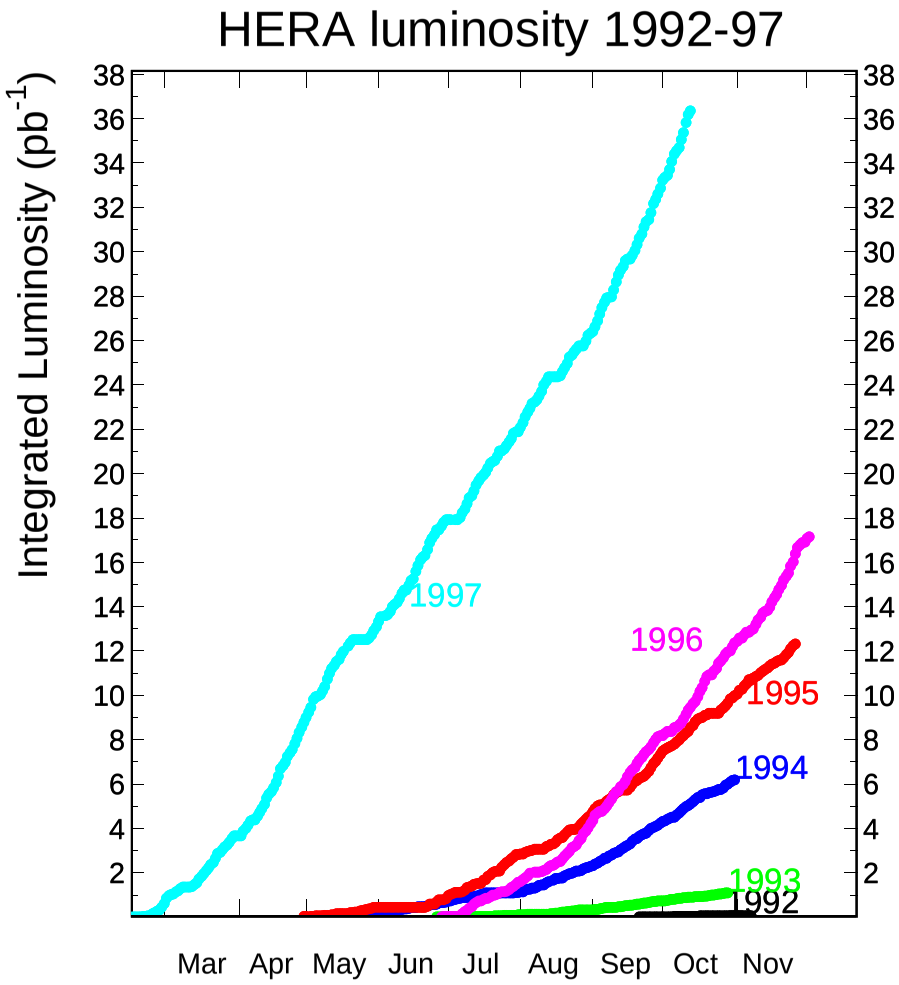


- **The world's only electron-proton collider**
- **Collides 27.5GeV electrons with 820GeV protons**

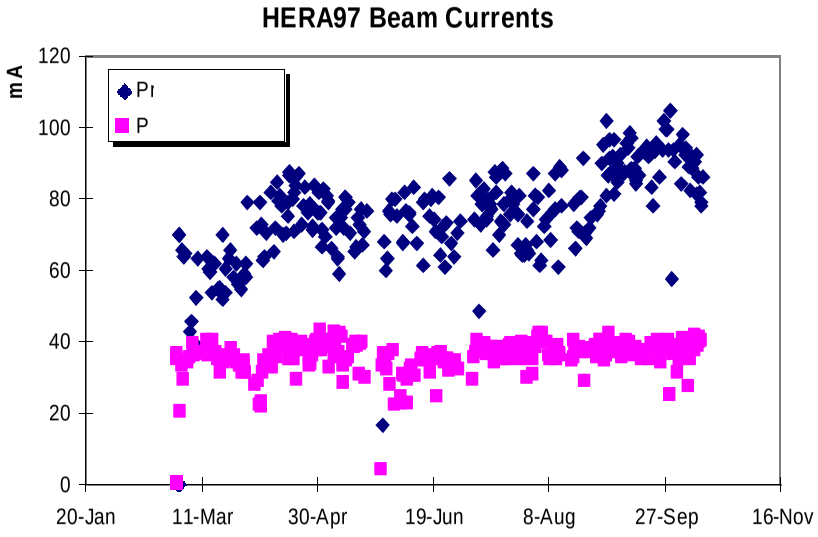
HERA Performance

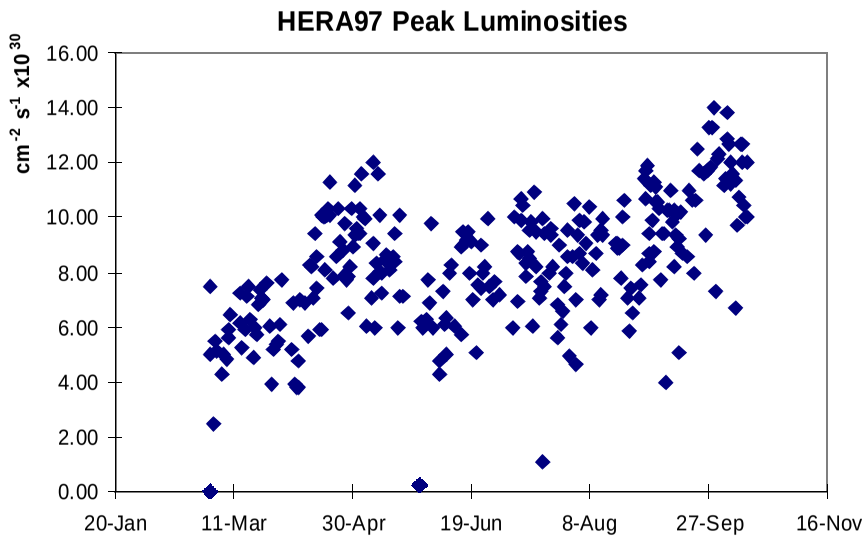


Year	Delivered (pb^{-1})
1993	1.1
1994	5.1
1995	12.3
1996	17.2
1997	36.4

- **Constant increase in performance year by year**
- **1997 doubled delivered luminosity**
  - **Successful change to shutdown scheduling**

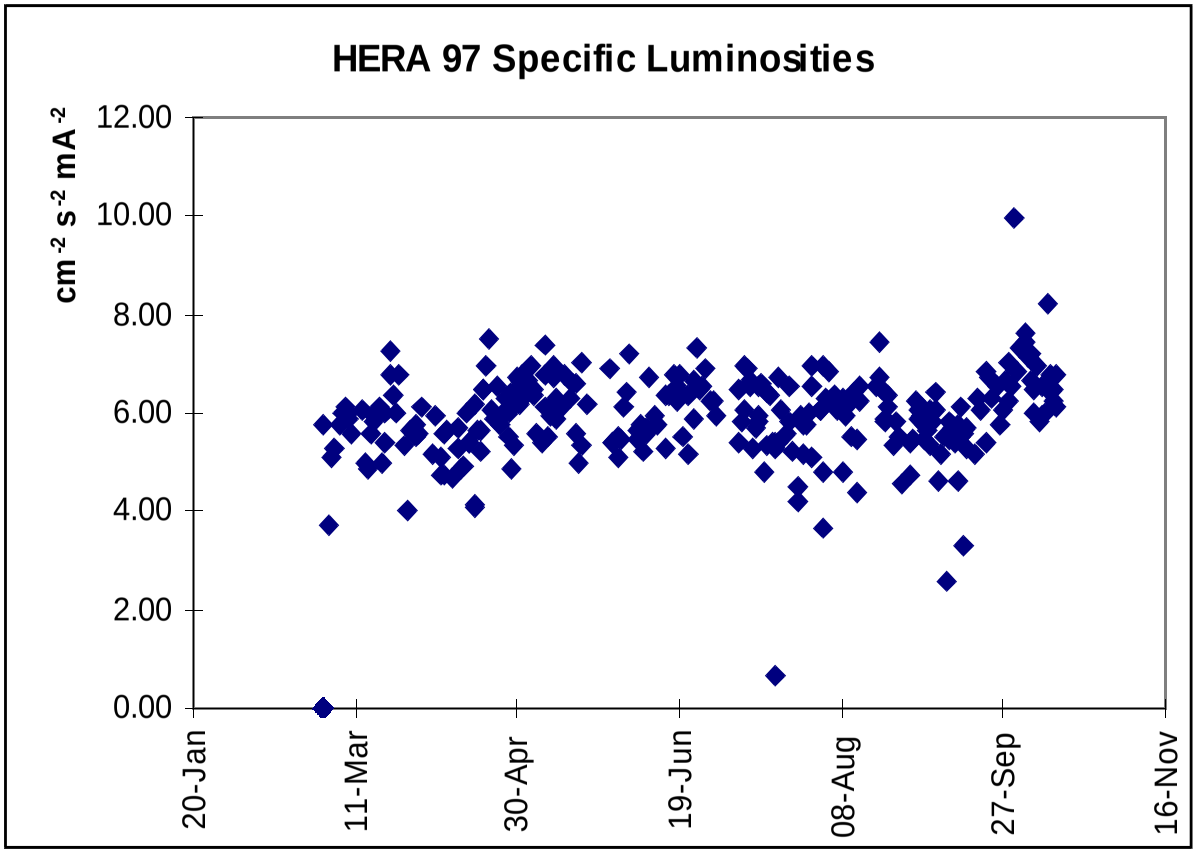
HERA Currents and Luminosity





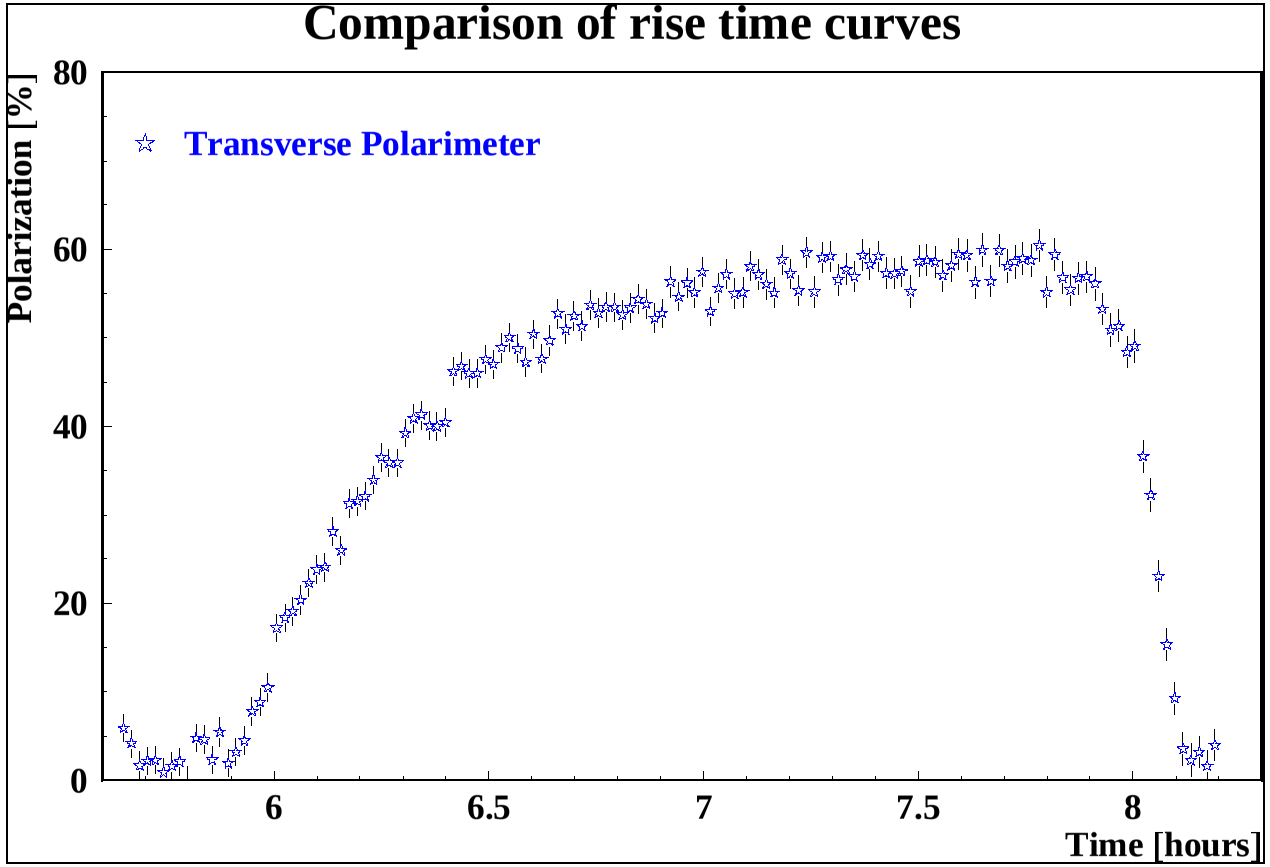
- **Steady increase in I_p through 1997**
- **Peak luminosity $1.4 \times 10^{31} cm^{-2} s^{-1}$**

HERA Specific Luminosity



- **Higher than design values**
- **1997 change to β functions successful**

Polarisation



- Consistently able to achieve high degree of polarisation
- 60% typical

The Next Years

- New vacuum pumps for electron ring installed this shutdown
  - Running with e^- in 1998 and 1999
  - Comparable delivered luminosity to e^+p over two years
- Test with proton energy increased to 920GeV

Into the next Millennium

- **HERA will run until 2005**
  - **Upgrade to deliver 1fb^{-1} by 2005 will be carried out during 1999/2000 long shutdown**
    - » **Explore High-Q^2 and electroweak physics**
    - » **Requires major modifications to experimental interaction regions**
  - **Spin Rotators installed for Zeus and H1 experiments in 1999/2000 (Hermes already operational)**
    - » **Begin program of polarised measurements**

To Conclude

- **HERA has performed well over the last two years**
- **We look forward to high luminosity running until 2005**
- **Still a wealth of physics to investigate**