

# Introduction

Tobias Haas/DESY  
JRA1 Parallel  
EUDET Annual Meeting 2007

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# This talk

- Today's Programme
- JRA1 schedule
- Recently accomplished milestones
  - Field mapping
  - Demonstrator/test beam campaign
- Next steps
- Final remark

# Today's Programme

09:30	Introduction	HAAS, Tobias
09:50	Testbeam results	ROLOFF, Philipp
10:10	DEPFET testbeam results	REUEN, Lars
10:30	Status of Analysis Software	BULGHERONI, Antonio
11:15	Status of DAQ	EMLYN, Corrin
11:35	Status of R/O Electronics (EUDRB)	BOZZI, Concezio
11:55	Status of MimoTel Sensors	DULINSKI, Wojciech
12:15	Status of mechanics, cooling and infrastructure	GREGOR, Ingrid
12:35	Status of TLU	CUSSANS, David
14:00	Field measurement of PCMAG	FORMENTI, Fabio
14:20	Preliminary results of the PCMAG field map	GREFE, Christian
14:40	MIMOSA5 studies	ZARNECKI, Aleksander Filip
15:00	Next telescope chip	WINTER, Marc
15:20	DEPFET plans	RUMMEL, Stefan
15:40	ISIS plans	HEATH, Helen
16:00	Next Steps and Discussion	ALL

Very busy!!!

# JRA1 Schedule

## Phase1: "Demonstrator"

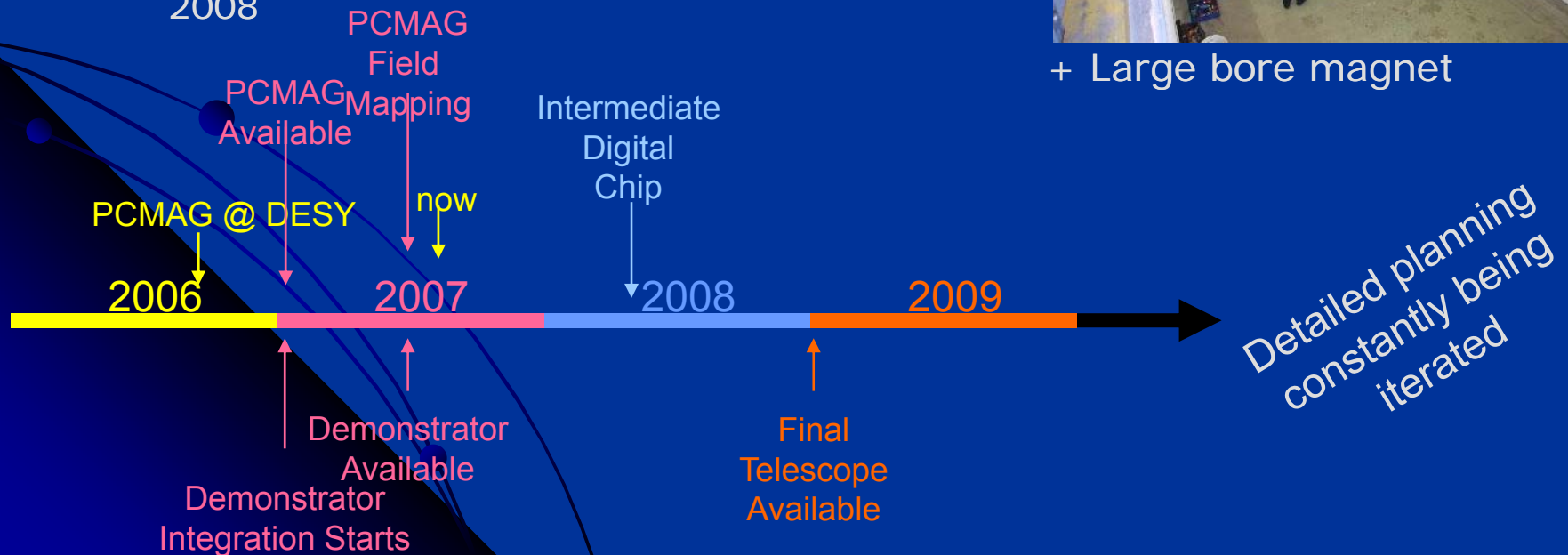
- First test facility will be available quickly for the groups developing pixels
- Use established pixel technology with analogue readout and no data reduction

## Phase2: Final telescope

- Use pixel sensor with fully digital readout, integrated Correlated Double Sampling (CDS), and data sparsification
- The beam telescope ready at the end of 2008

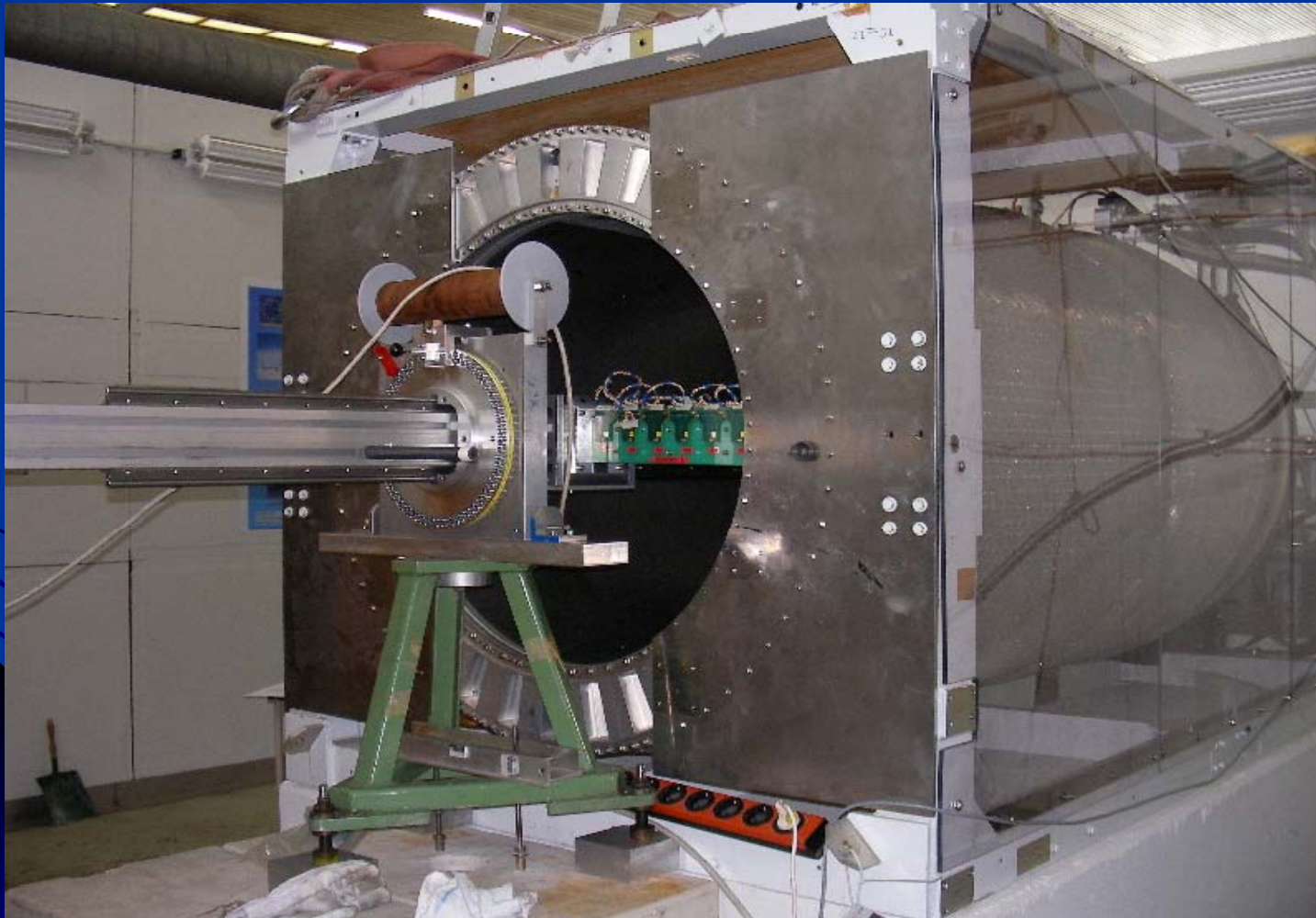


+ Large bore magnet



# PCMAG Field Mapping

→ talks by Fabio Formenti and Christian Grefe



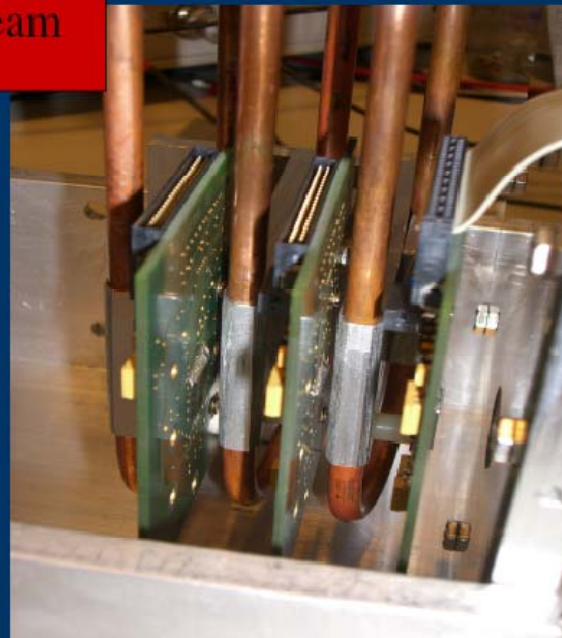
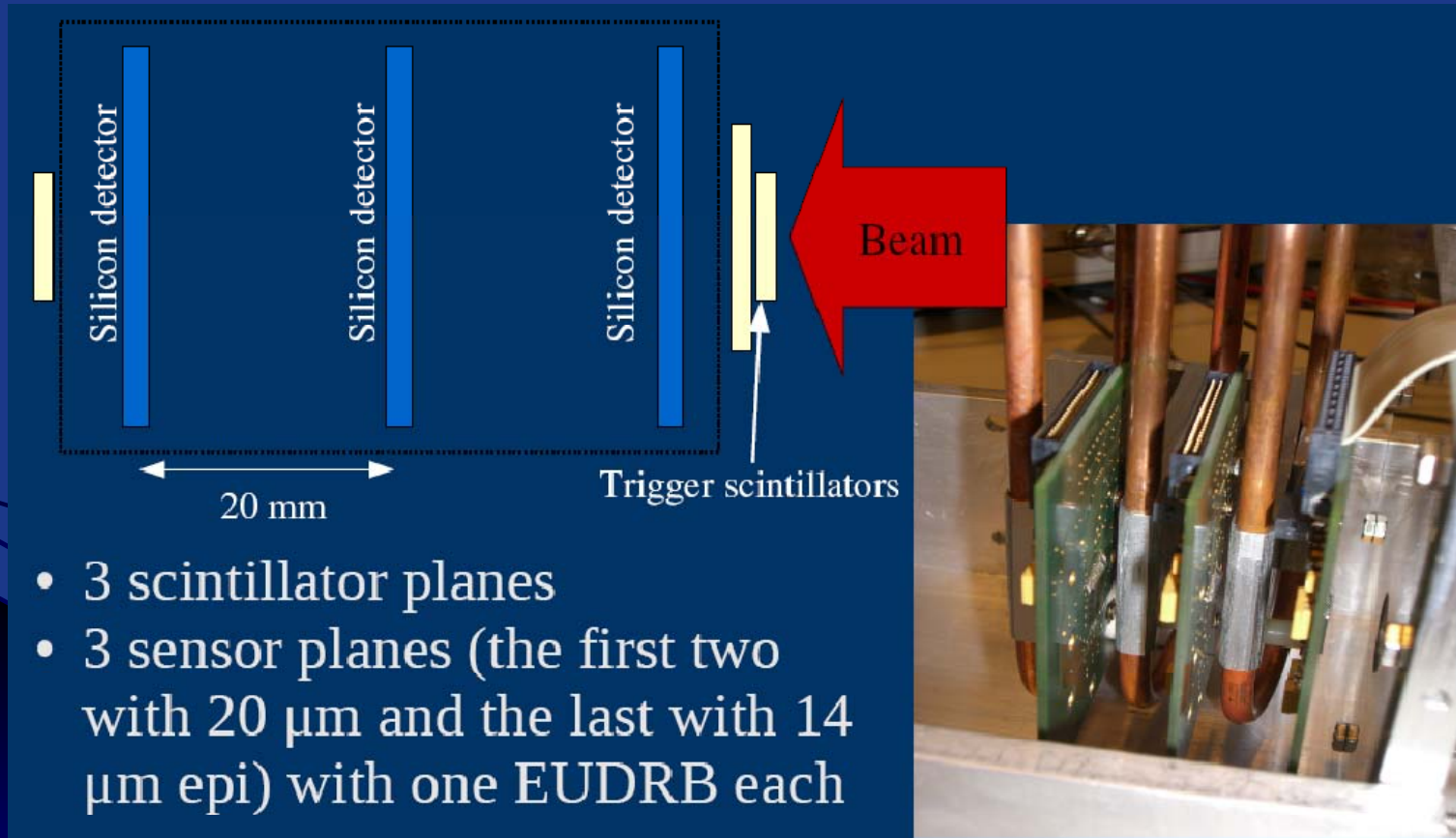


# Test Beam Campaigns

→ talk by Philipp Roloff

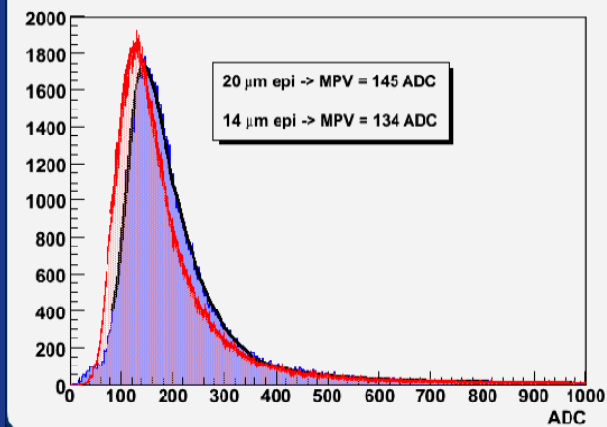
- June 2007: DESY
  - Commissioning, First beams
- August 2007: DESY
  - Full system, First results
- September 2007 (now): SPS @ CERN
  - Demonstrate the performance:
    - Speed
    - Precision

# DESY Test beam I

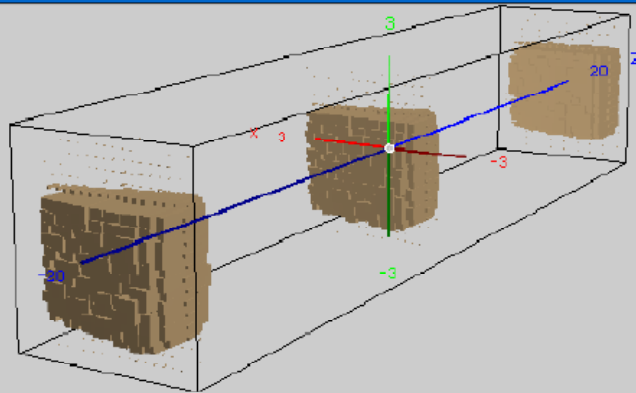


# DESY Test beam I

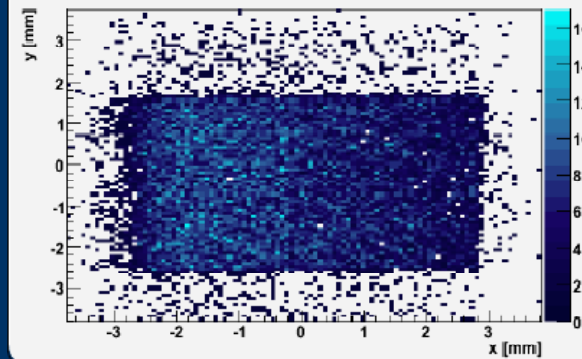
### 3x3 cluster signal distributions



### Single track 3D hit map



### First plane hit map





# DESY Test beam II



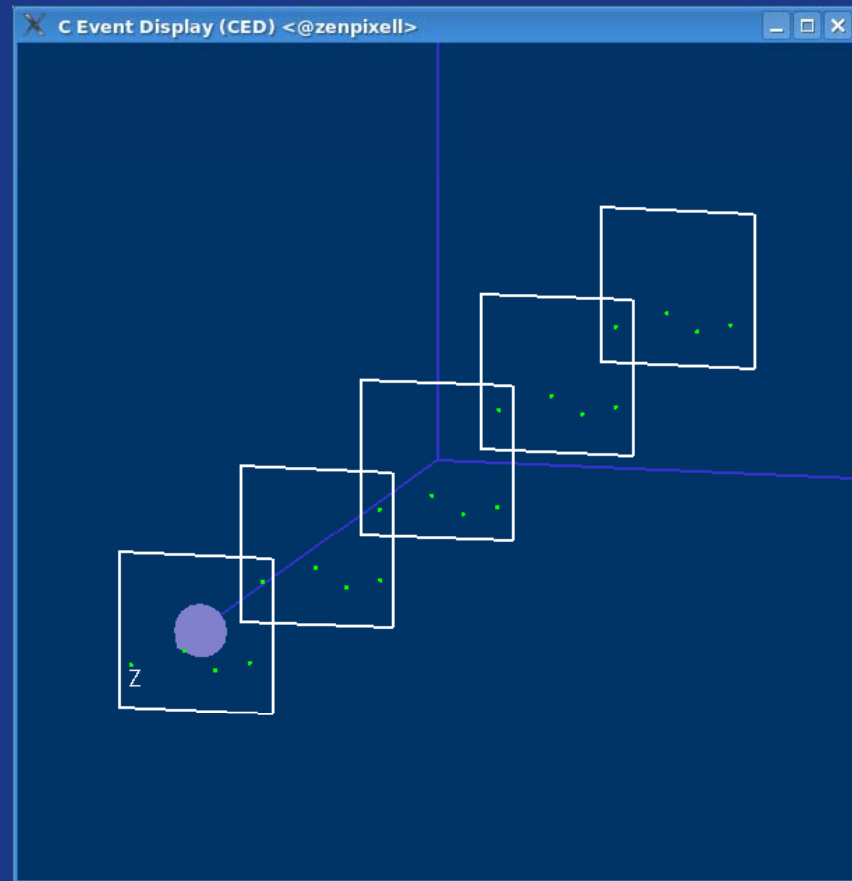
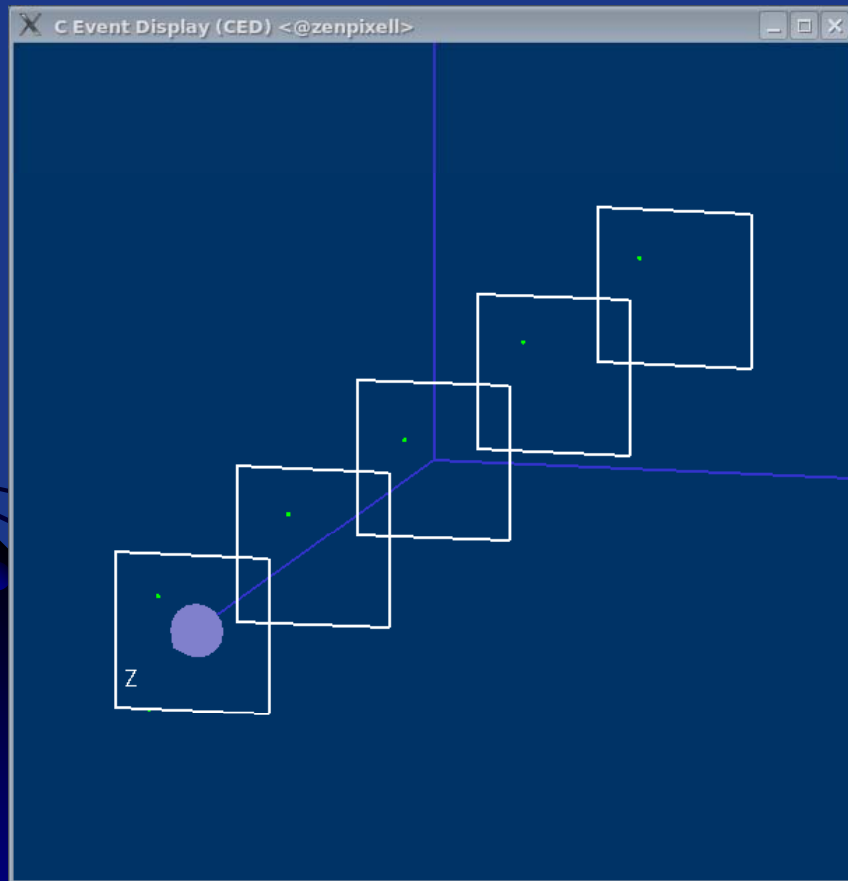
8 October 2007

Tobias Haas: Introduction

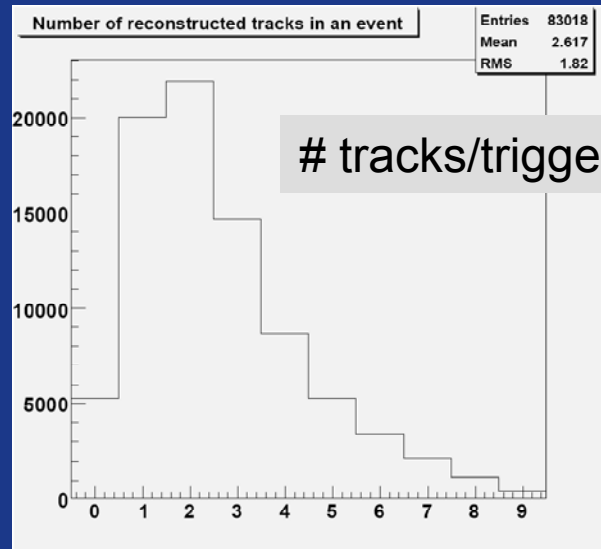
# DESY Test beam II



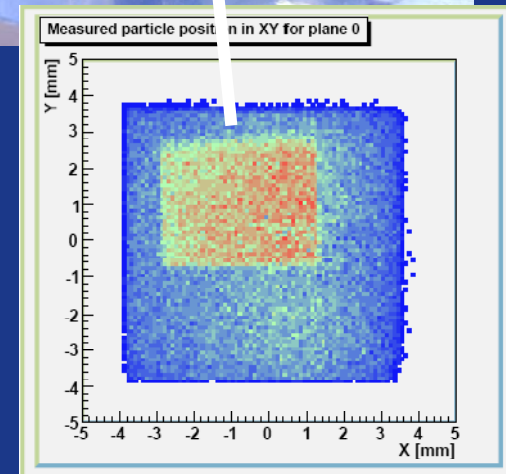
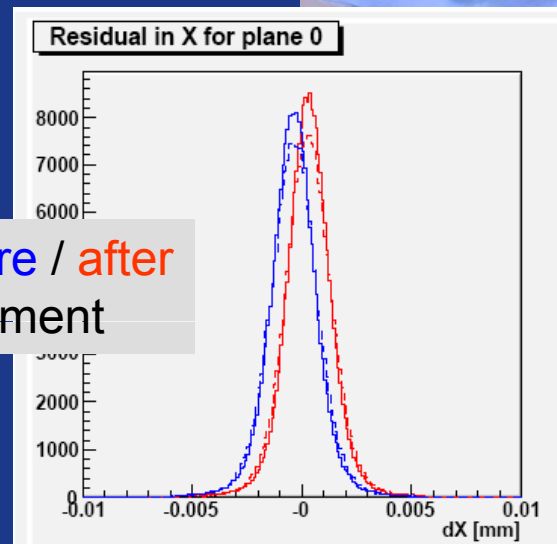
# DESY Test beam II



# DESY Testbeam II



Before / after alignment



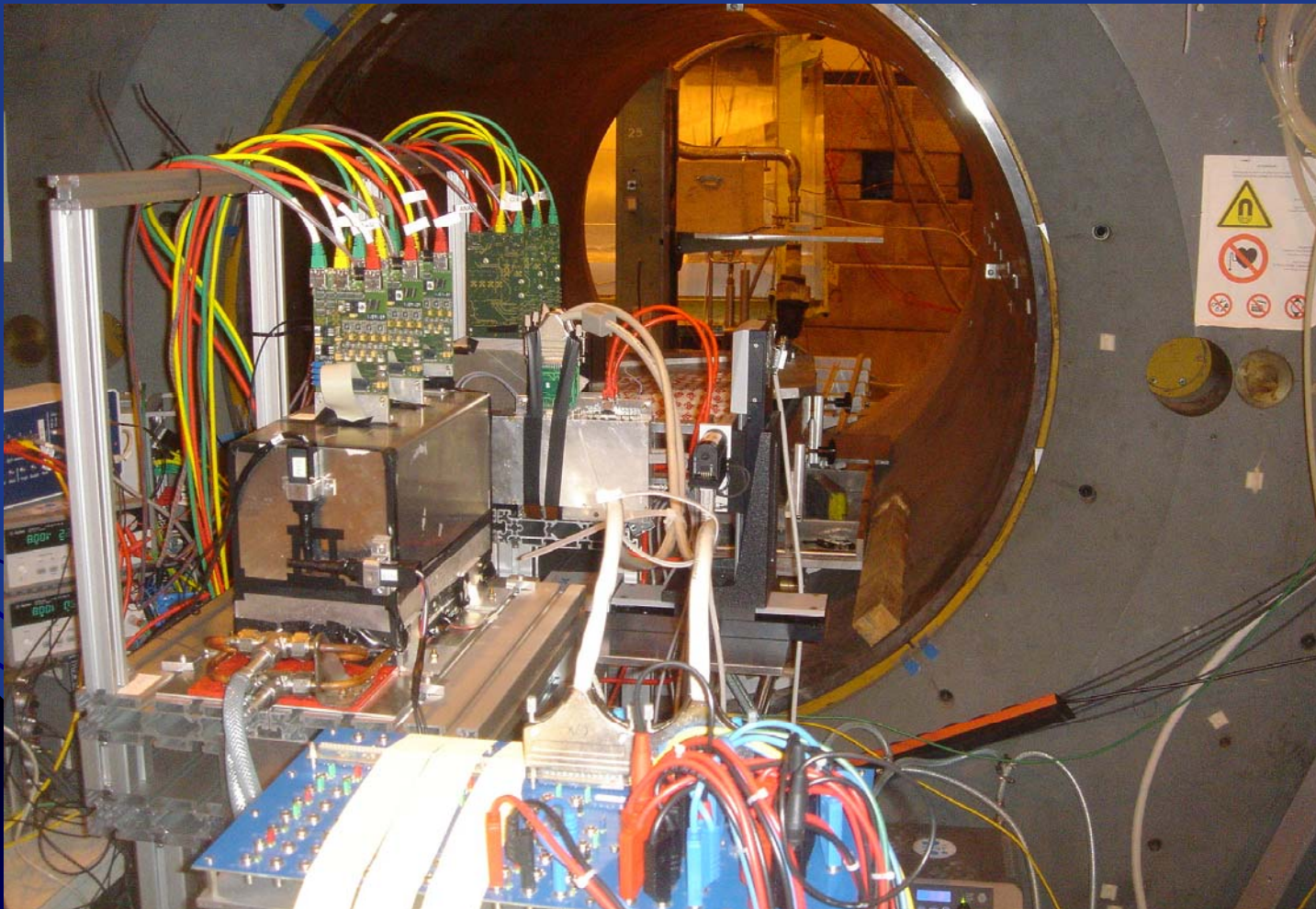


# CERN Test beam III





# Telescope in H8



**TB-CERN-SEPTEMBER**

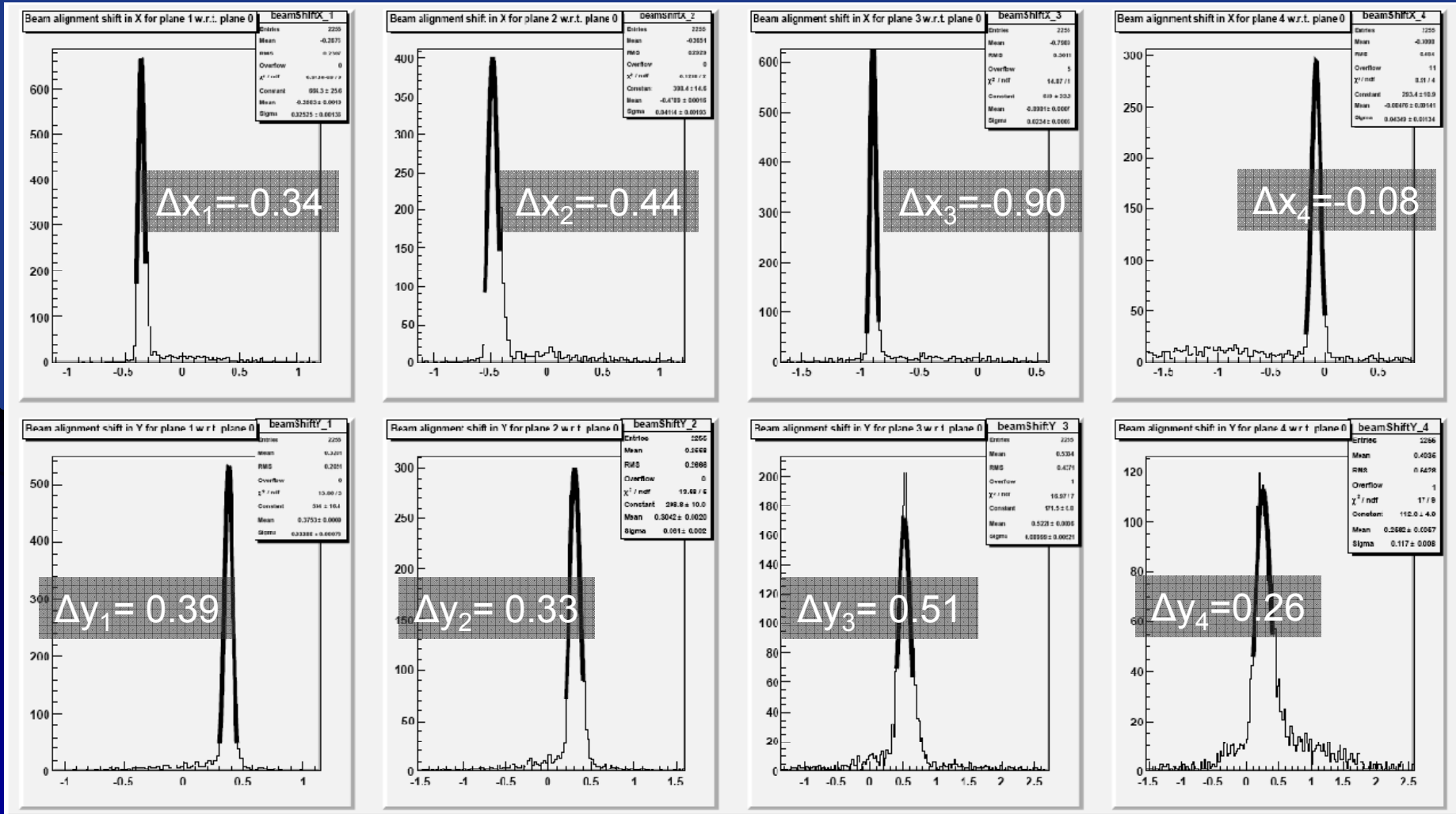
Runs Shifts

RUN NUMBER	TYPE	DATE	START	STOP	EVT NUMBER	TOTAL	USER COMMENTS
1458	180 GeV pion+	18/09/2007	10:49:00	11:10:00	891		first try at CERN: beam seems to be above (or below?) the telescope
1459	180 GeV pion+	18/09/2007	11:11:00	11:18:00	299		
1460	180 GeV pion+	18/09/2007	11:18:00	11:40:00	890		continue to take data because no access
1461	180 GeV pion+	18/09/2007	11:40:00	12:05:00	797		run aborted to recompile DAQ software
1462	180 GeV pion+	18/09/2007	12:08:00	12:25:00	737		run aborted to recompile DAQ software
1463	180 GeV pion+	18/09/2007	12:27:00	12:58:00	890		
1464	180 GeV pion+	18/09/2007	12:58:00	13:19:00	890		
1465	180 GeV pion+	18/09/2007	13:19:00	13:42:00	891		

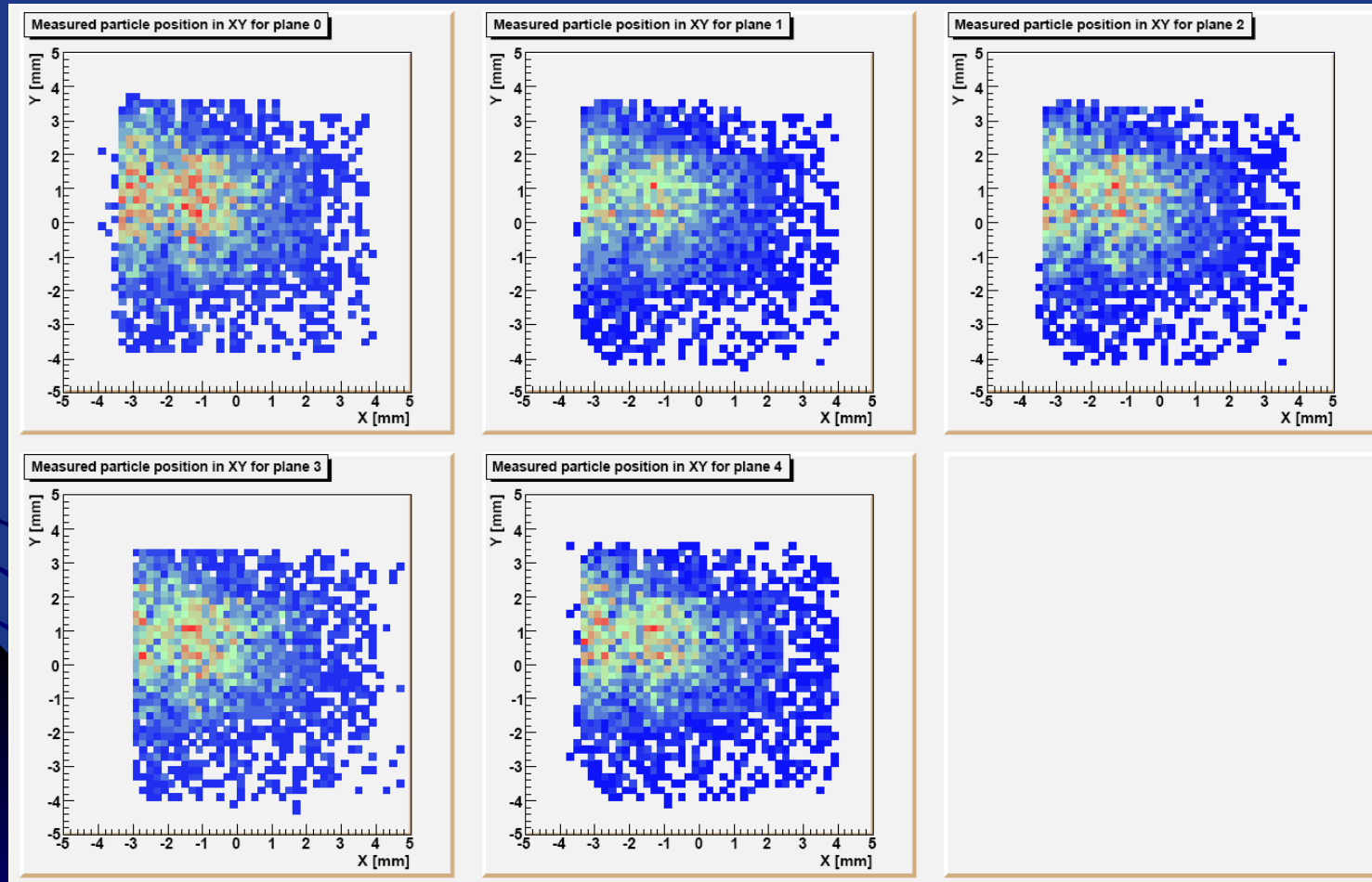
1783		23/09/2007	14:56:00	15:14:00	0		same coll deplet xnom -2mm y -2mm
1784		23/09/2007	15:16:00	15:34:00	472		same coll deplet xnom ynom
1785		23/09/2007	15:37:00	16:04:00	582	4299	same coll deplet x +2mm
1786		23/09/2007	16:10:00	16:25:00	891		old coll c1 -5/5 c2 -10/10 c3 -3.5/35 550/spill
1787		23/09/2007	16:32:00	16:50:00	817		old coll c1 -5/5 c2 -10/10 c3 -3.5/35 550/spill
1788	pedestal	23/09/2007	16:56:00	16:57:46	310		pedestal run T=22.6C, c2:-3/3
1789	pedestal	23/09/2007	17:00:00	17:00:00	383		pedestal run T=22.6C, c2:-3/3
1790	beam	23/09/2007	17:22:59	18:08:00	890		c1: -2/2 c2:-4.6/4.6 c3: -1.5/1.5
1791	beam	23/09/2007	18:08:00	19:00:00	889		c1: -2/2 c2:-4.6/4.6 c3: -1.5/1.5
1792	beam	23/09/2007	19:00:00	19:02:00	64		c1: -2/2 c2:-4.6/4.6 c3: -1.5/1.5
1793	beamzs	23/09/2007	19:32:00	19:46:00	3272		collimators back to c1 -5/5 c2 -10/10 c3 -3.5/35, first try of zs at CERN, sigma = 2.0, pedestal run 1789 used, set DutMask = 26 in beamzs conf
1794	beam	23/09/2007	19:52:00	19:55:00			number of clusters in DAQ software was very low take run in raw mode to check beam works fine
1795	beamzs	23/09/2007	20:21:00	20:32:00	2224		sigma = 1.0
1796	beamzs	23/09/2007	20:33:00	20:38:00	990		sigma = 1.0
1797	beamzs	23/09/2007	20:55:00	23:48:00	40298		sigma = 2.0
1798	beamzs	24/09/2007	0:05:00	5:08:00	40528		sigma = 2.5
1799	beamzs	24/09/2007	5:23:00	5:23:00	17		DEPFET crashed
1800	beamzs	24/09/2007	5:25:00	7:32:00	30010		sigma = 3.0, DAQ crashed
1801	beamzs	24/09/2007	7:33:00	8:17:00	10970		continued to get 40k events
1802	beamdeplet	24/09/2007	8:22:00	8:51:00	891		Back to RAW mode
1803	beamdeplet	24/09/2007	8:51:00	9:13:00	891		
1804	beamdeplet	24/09/2007	9:13:00	9:34:00	891		
1805	beamdeplet	24/09/2007	9:34:00	9:55:00	891		
1806	beamdeplet	24/09/2007	9:55:00	10:19:00	890		
1807	beamdeplet	24/09/2007	10:19:00	10:42:00	891		
1808	beamdeplet	24/09/2007	10:42:00	10:52:00	432		Run stopped to move to lower energy
1809	beamdeplet	24/09/2007	10:52:00	11:49:00	891		Testing new DAQ DEPFET

Ca 100k events / Mio Tracks taken

# Alignment Constants

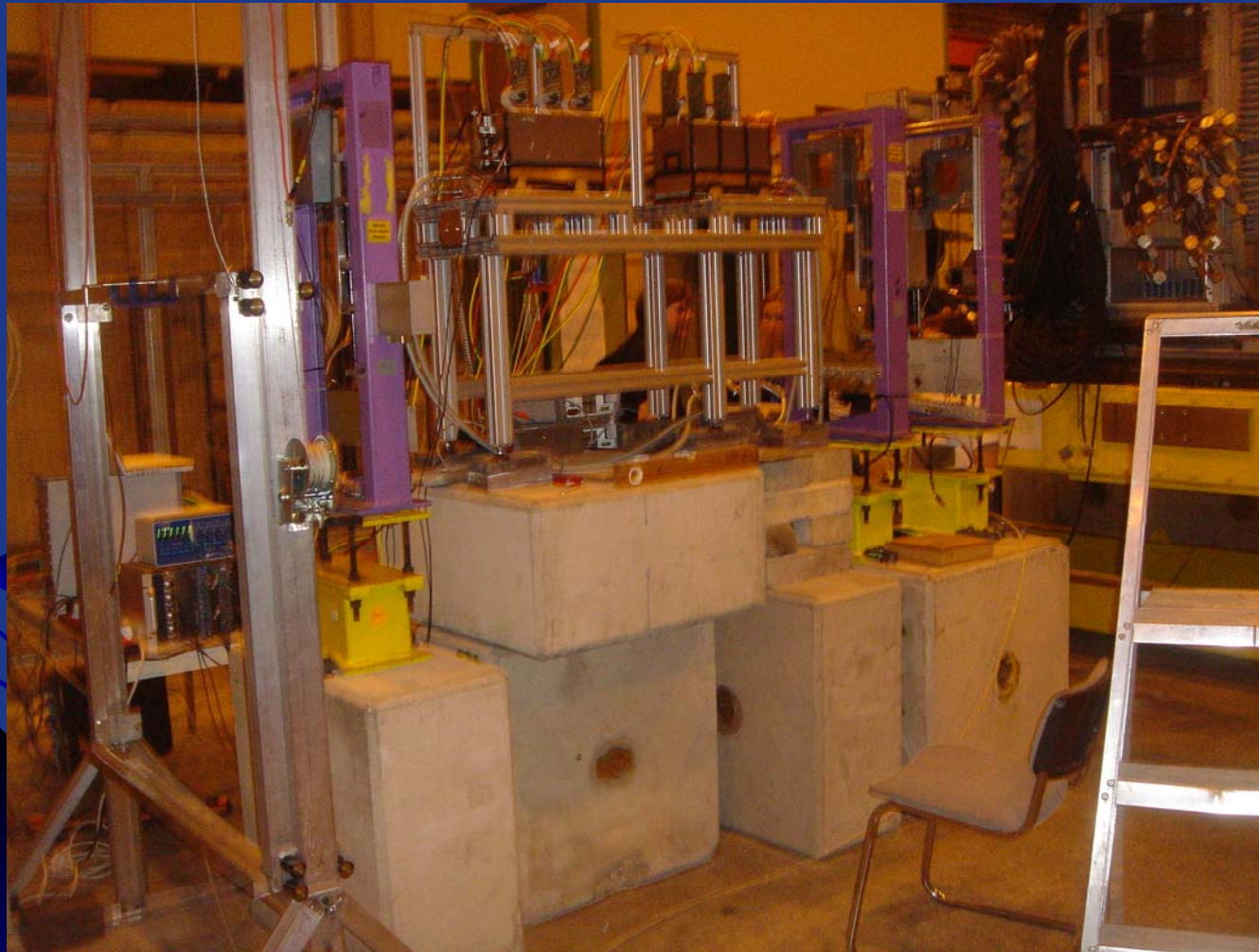


# Hit Map





# Telescope after moving to H6



8 October 2007

Tobias Haas: Introduction





# Pixel Telescope on tour

# Tasks for this Meeting

- Review Progress
- Discuss how to use the demonstrator
  - improvements
  - applications
- Discuss next steps
  - Demonstrator
  - Final Telescope

# Final Remark

- JRA1 coordination:



Thanks for your support