

# Alignment strategy

- exact knowledge of (time dependent) spaceframe geometry
- exact knowledge of supermodule geometry and position in spaceframe
- exact knowledge of chamber geometry and position in supermodule
- exact knowledge of chamber response to track at a given position
- tedious calculation **Or**
- final correction using straight tracks
  - rough knowledge of geometry (nominal design values)
  - correction using straight tracks

# ... depends on what we want:

- inclination and straightness properly calibrated
- matching to other detectors
- dead areas under control

 lazy strategy OK

or

- absolute theta and phi



tedious strategy necessary  
(unless external reference exists)

# Cosmics in Munster vs. calibration runs at LHC

## cosmics

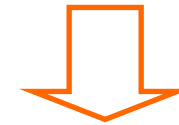
100-200 tracks /m<sup>2</sup> /s  
one stack at a time



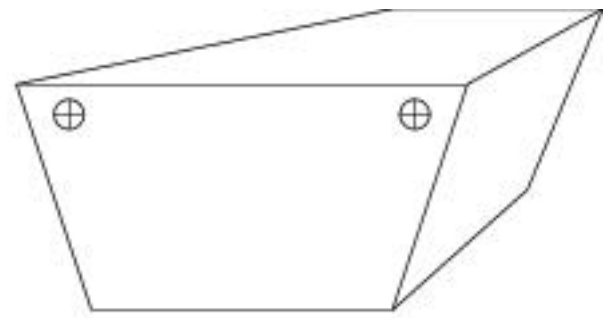
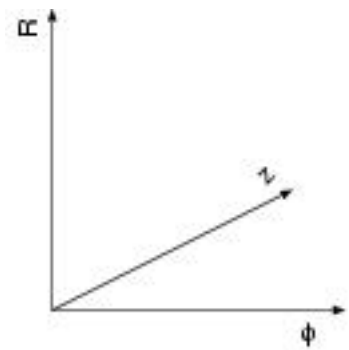
initial hardware test  
develop alignment procedure  
get a rough alignment

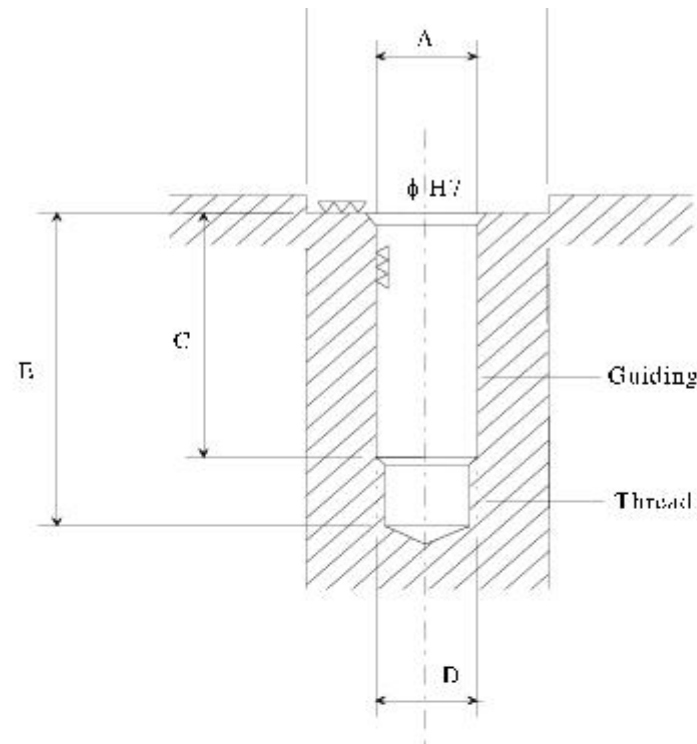
## calibration runs (without B)

1000-2000 tracks /m<sup>2</sup> /s  
all stacks simultaneously



get the ultimate alignment





A3 = 8  
 B3 = 28  
 C3 = 14  
 D3 = M6  
 E3 = 22

A2 = 10  
 B2 = 28  
 C2 = 16  
 D2 = M8  
 E2 = 26

A1 = 12  
 B1 = 30  
 C1 = 18  
 D1 = M10  
 E1 = 30

**WARNING: the values are given as indications**

**Every new values must be discussed and agreed**

<http://suexdraw.home.com.ch/suexdraw/refpoints/> ... see refhole.ps