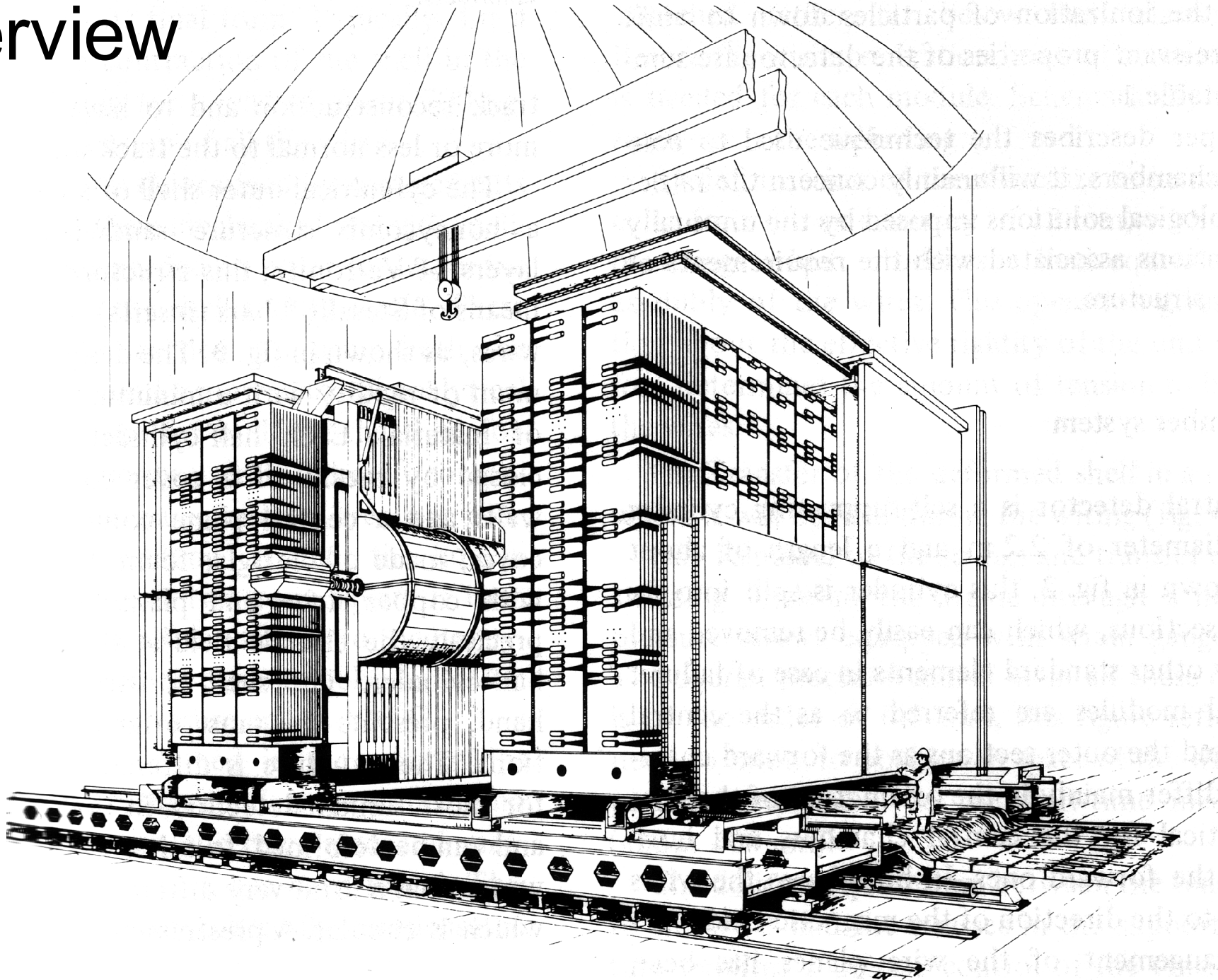


The UA1 detector

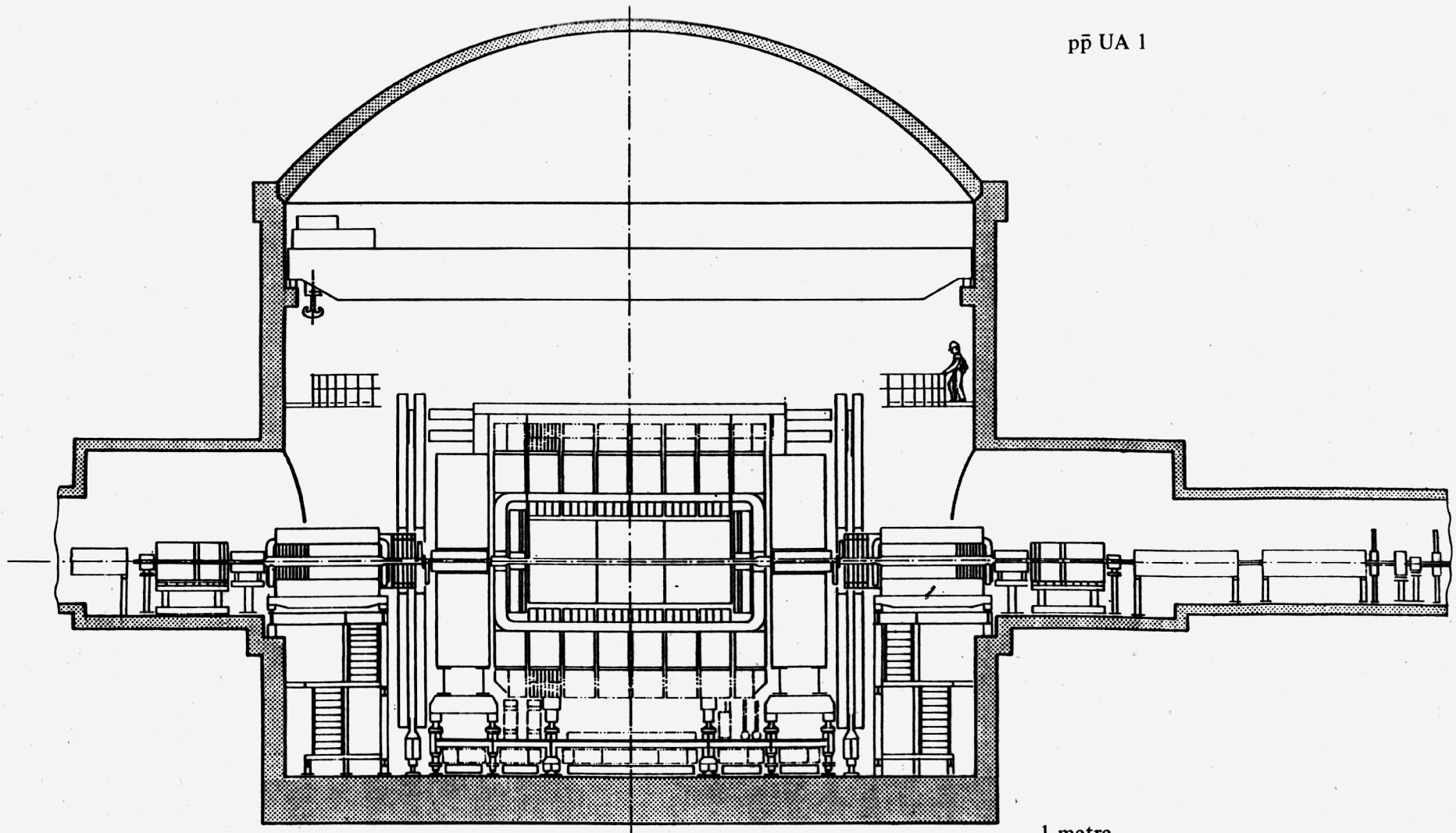
References:

- A. Astbury et al, CERN/SPSC/78-06
A 4pi solid angle detector for the SPS used as a proton-antiproton collider at a centre of mass energy of 540 GeV
- C. Rubbia, Phys. Rep. 239 (1994) 241
The discovery of the W and Z bosons
- P. Watkins, Story of the W and Z, Cambridge University Press 1986
- K. Eggert et al, NIM 176 (1980) 217
Large area drift tube chambers for a muon detector at the pbar p collider
- M. Barranco Luque et al, NIM 176 (1980) 175
The construction of the central detector for an experiment at the cern pbar p collider

overview



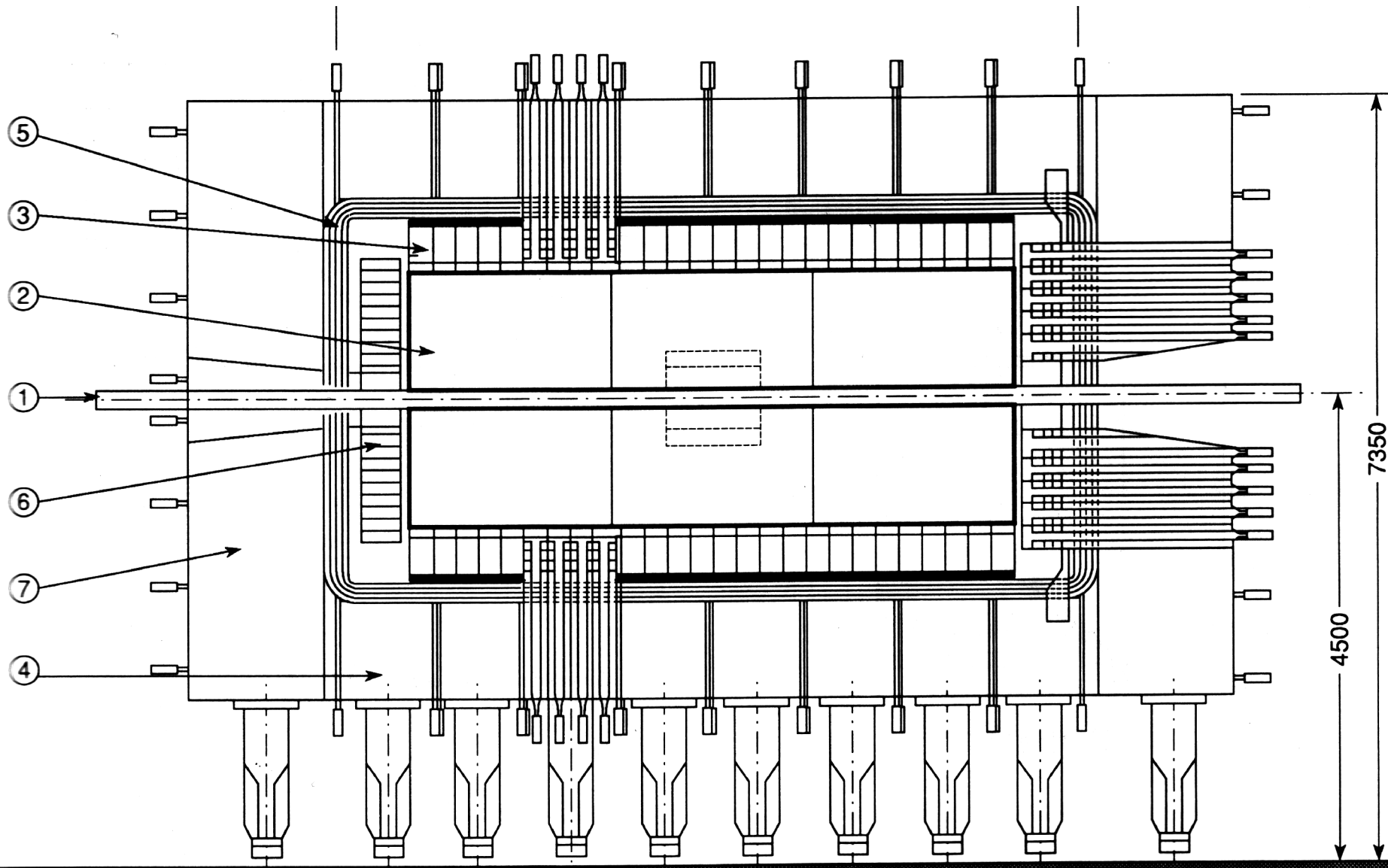
overview



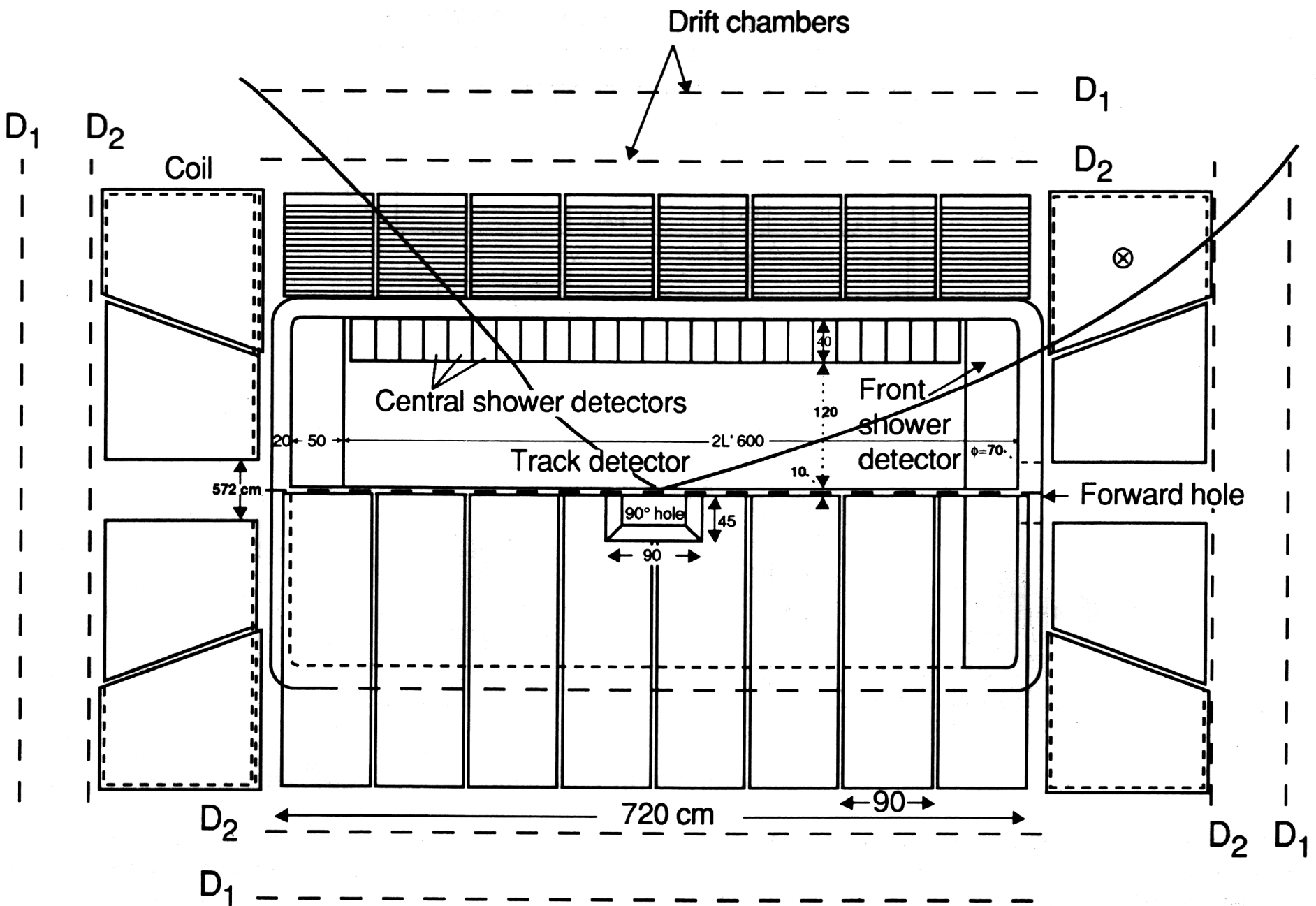
p̄p UA 1

1 metre

side view

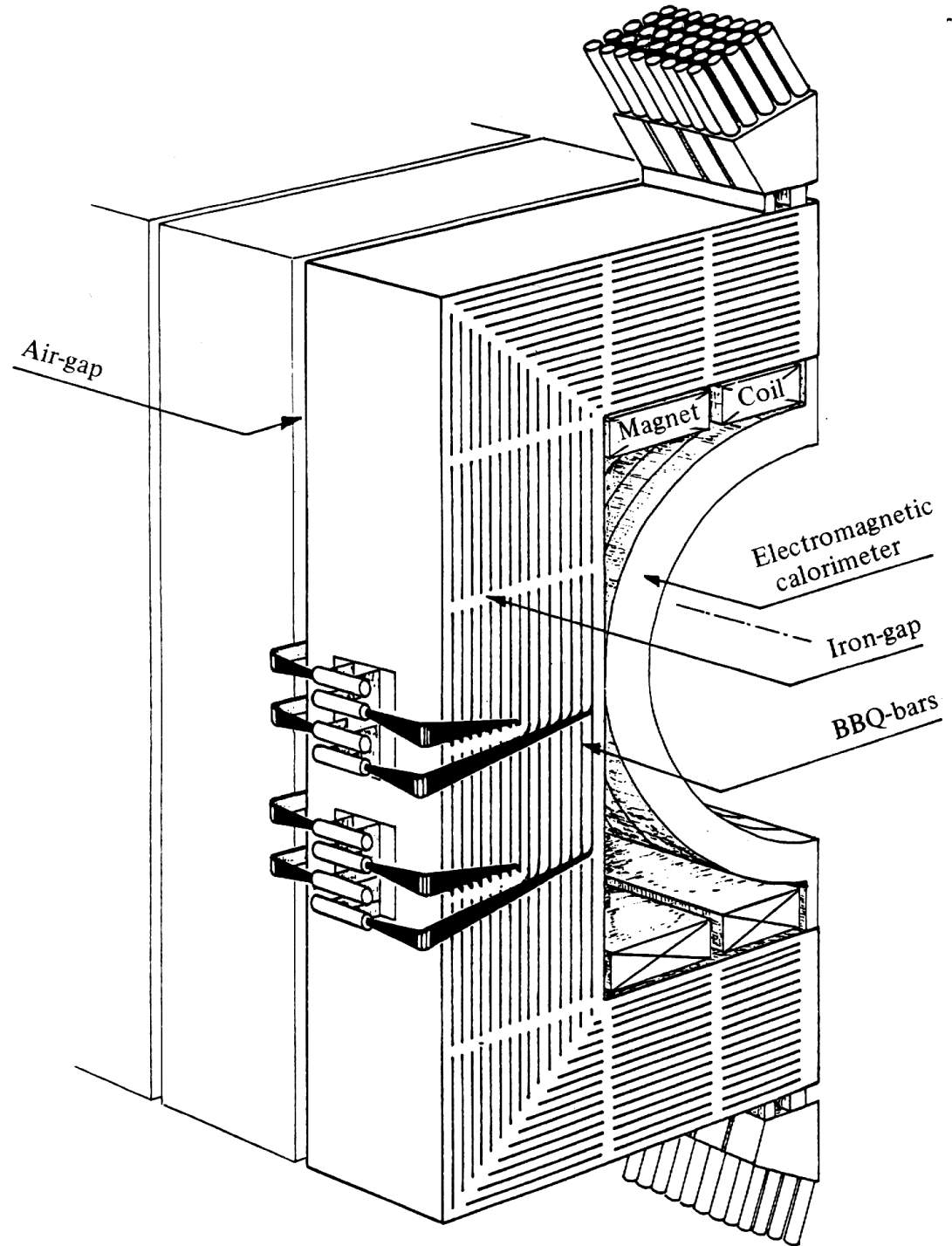


Side view with muon chambers

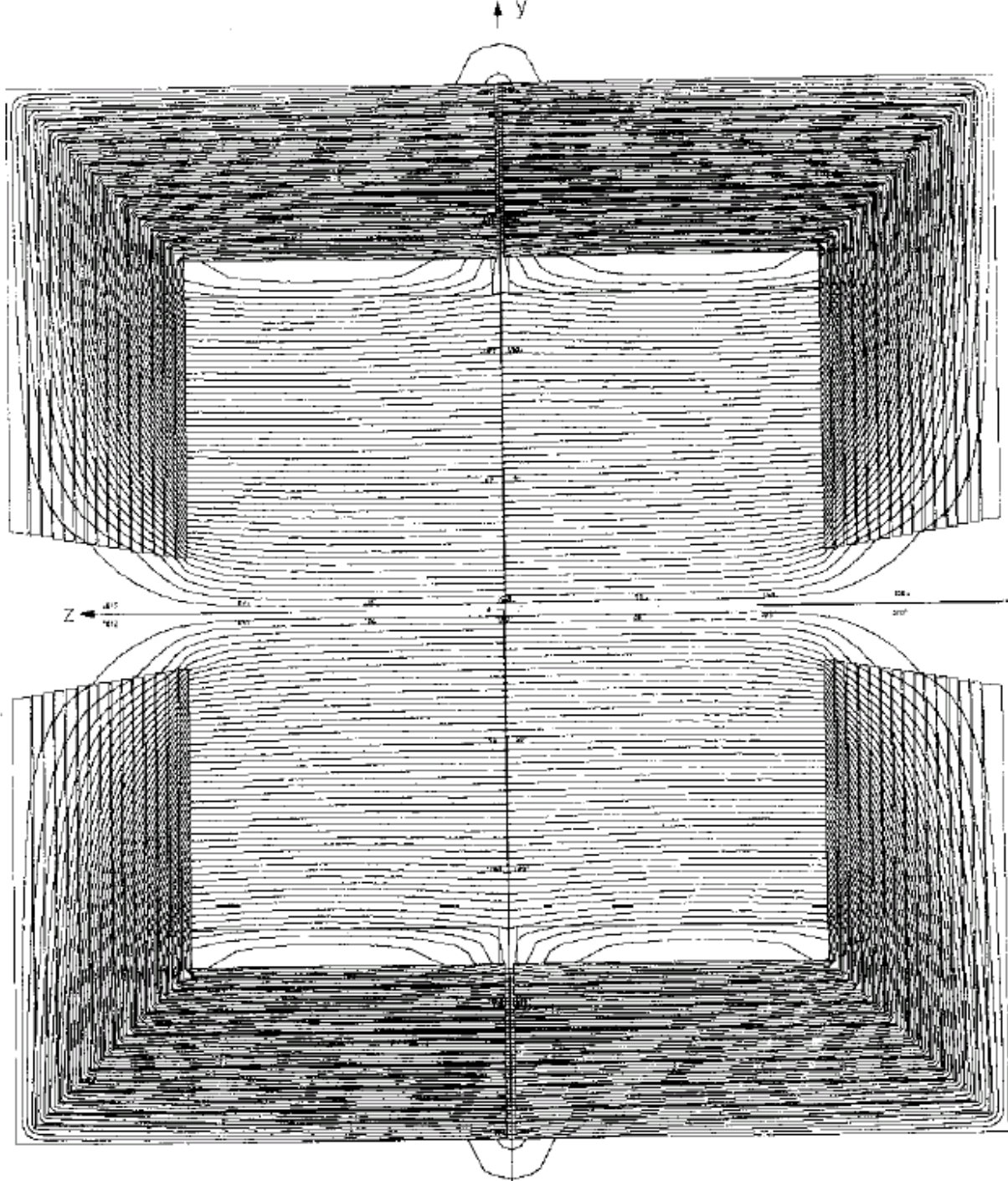


magnet and calorimeters

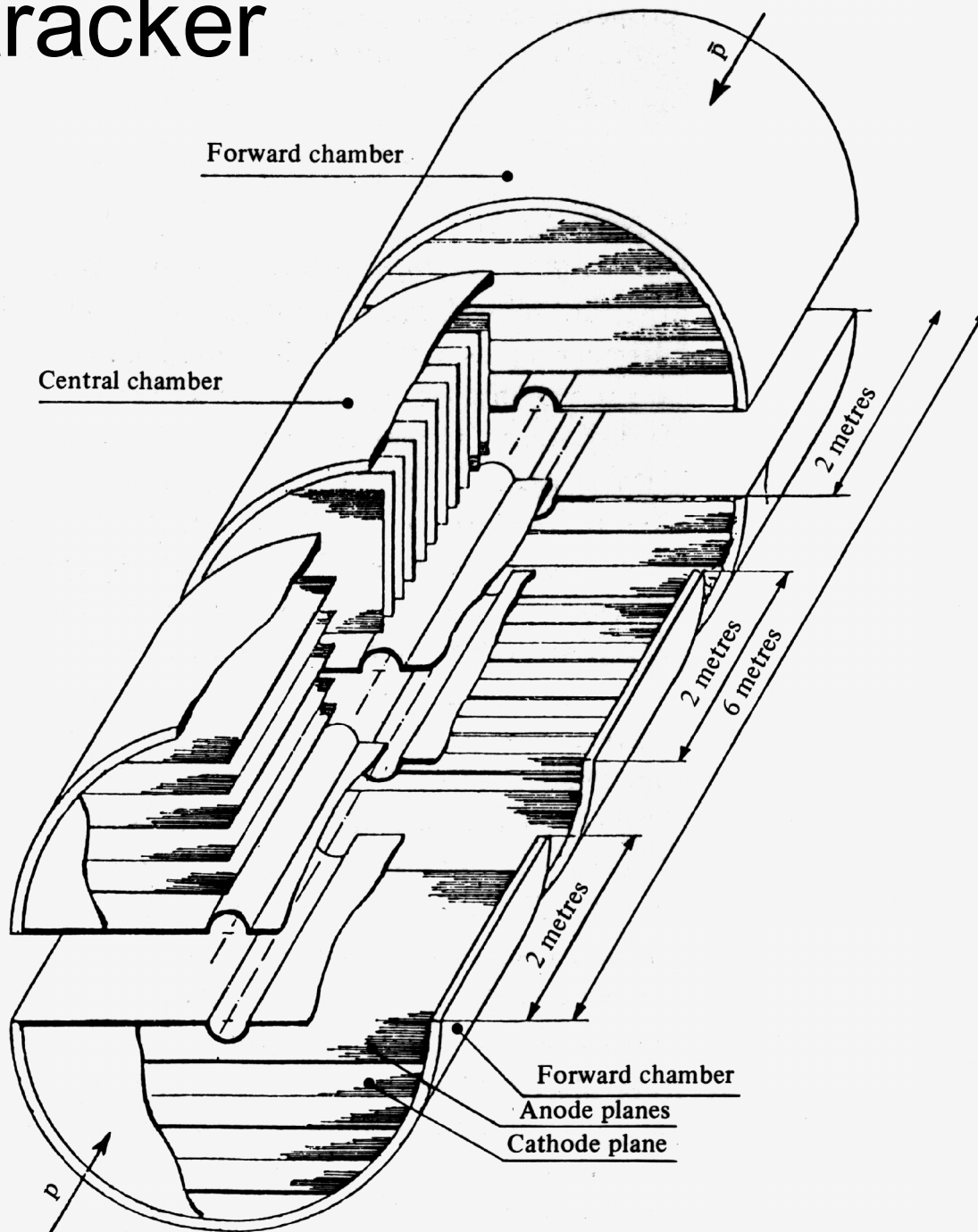
2003-10



magnetic
field

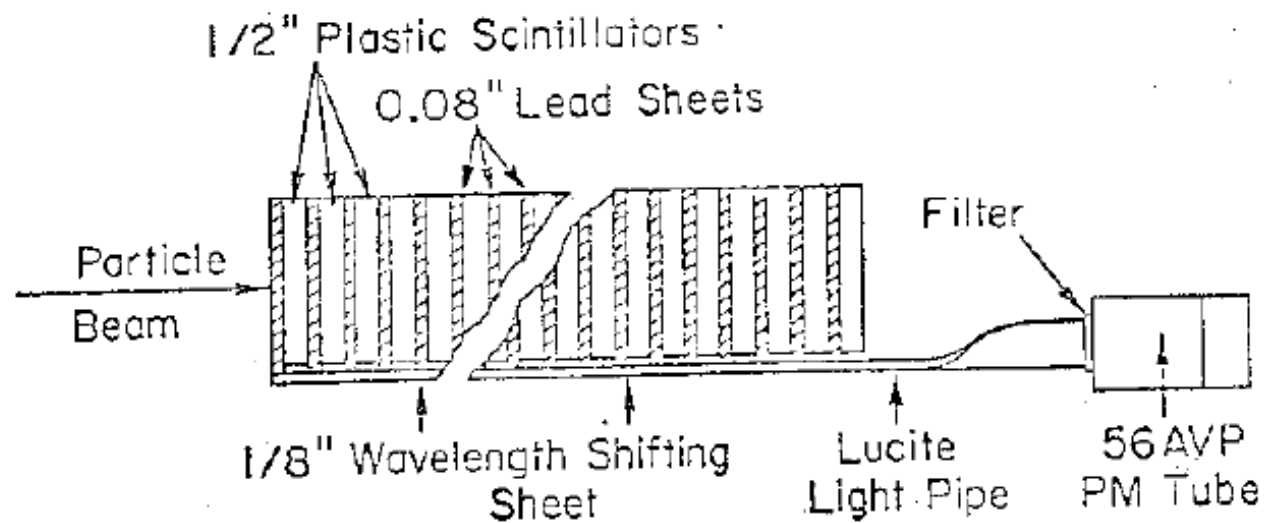
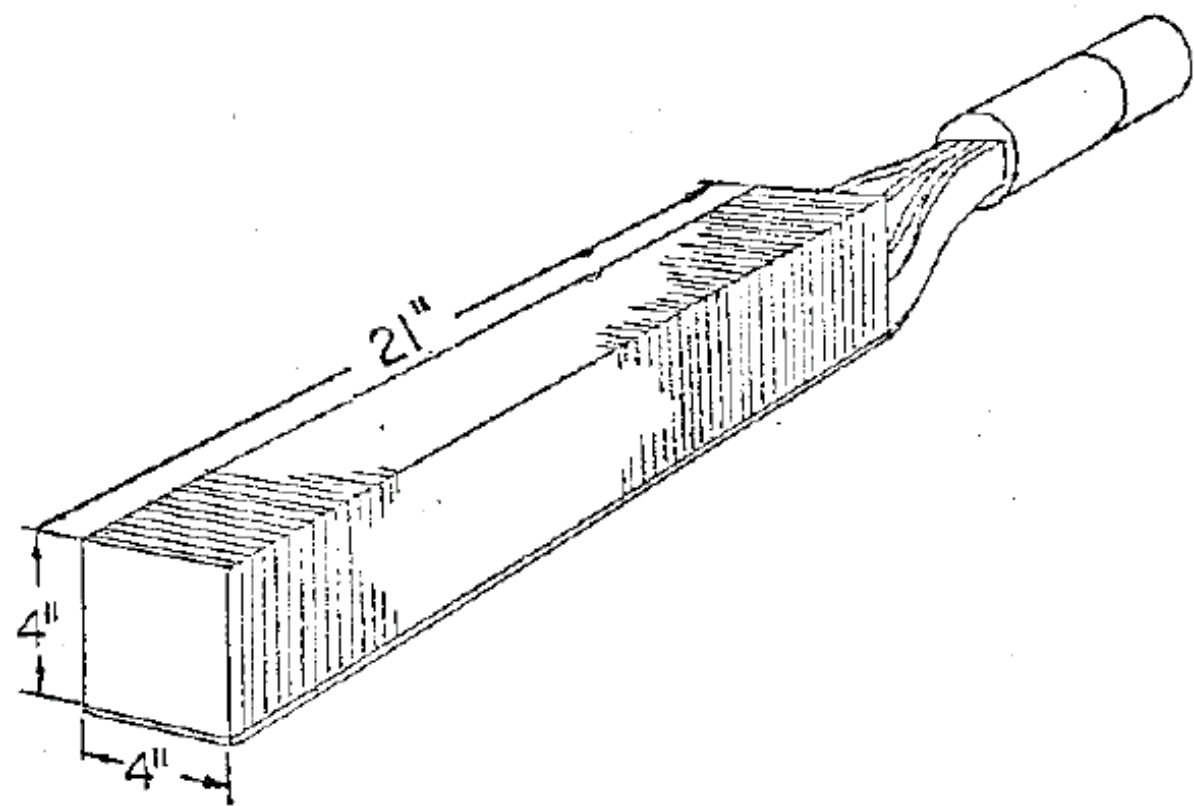


Central tracker

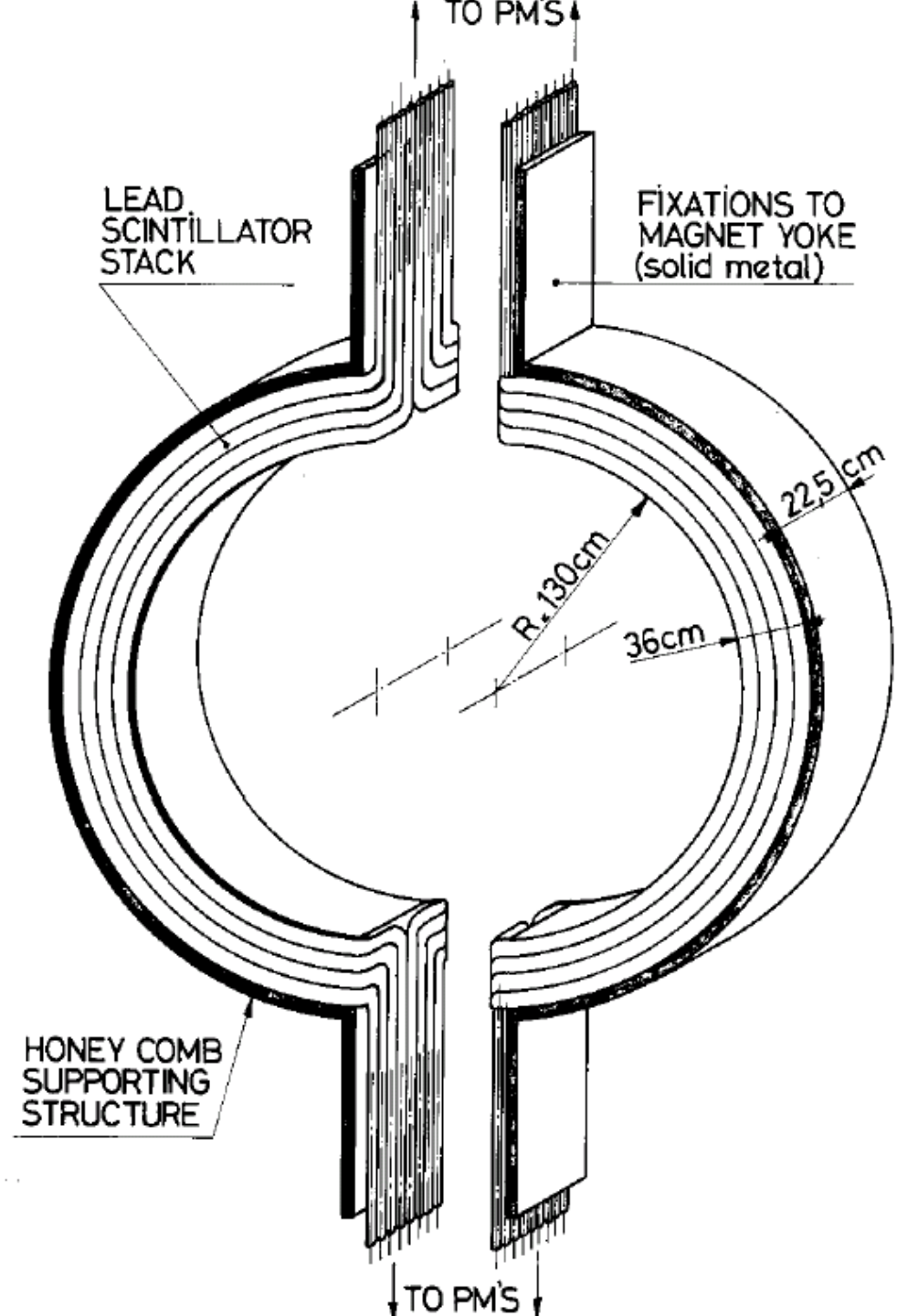


calorimeter

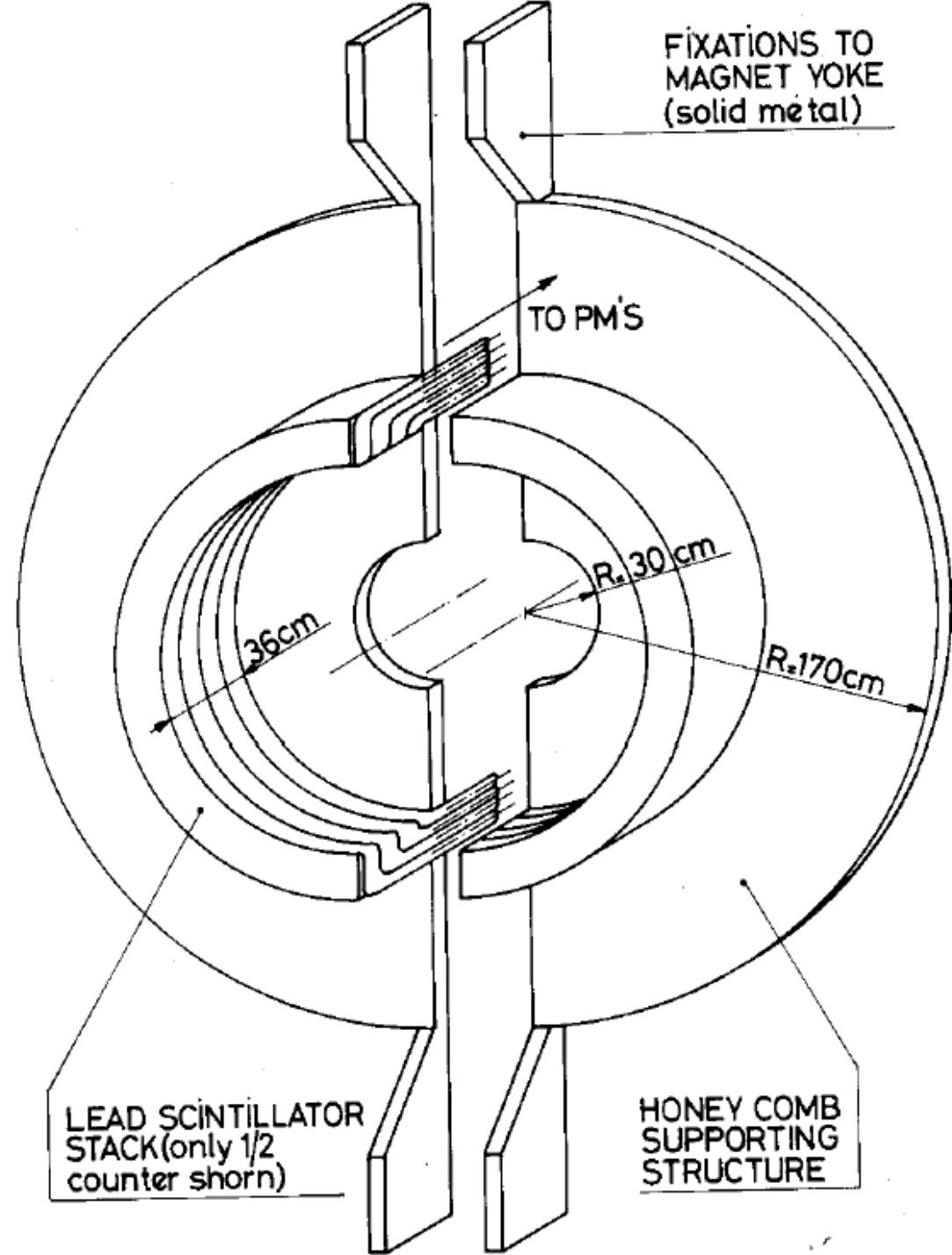
principle



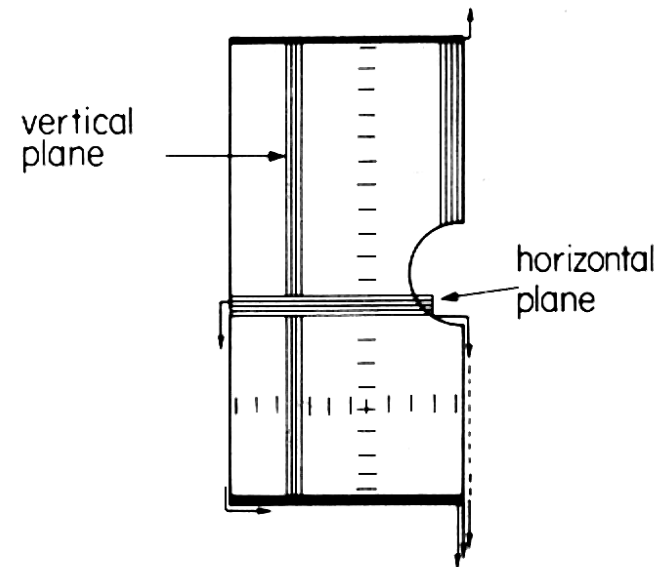
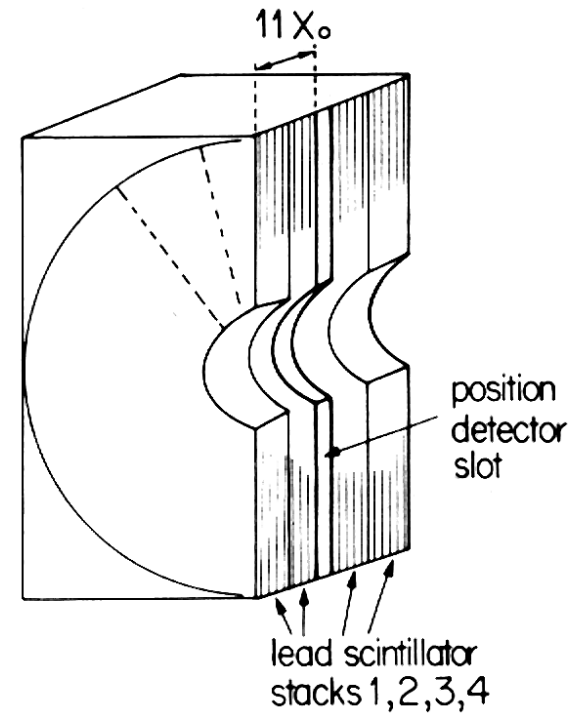
electromagnetic calorimeter: gondola



electromagnetic calorimeter: bouchon



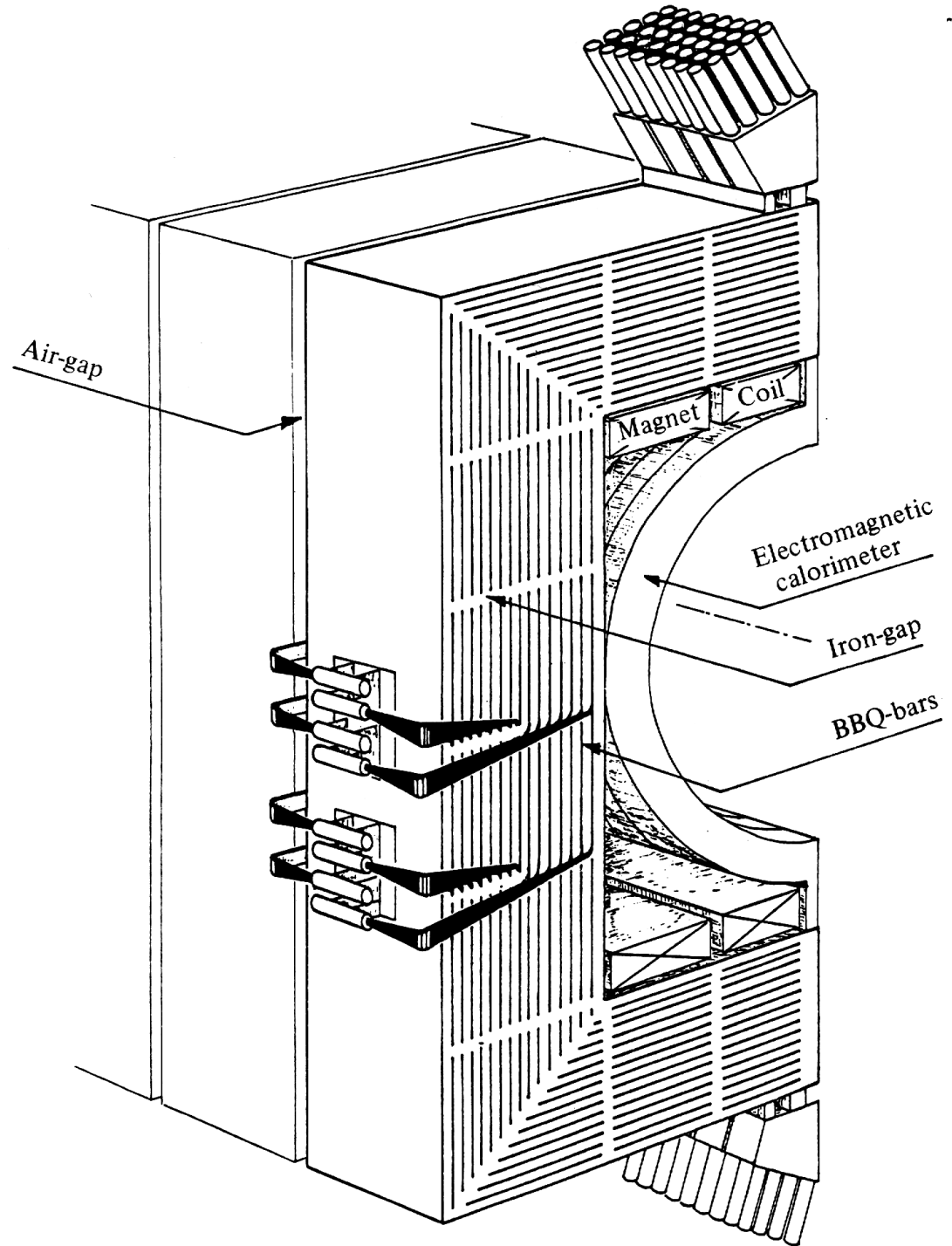
position measurement in bouchon



= 140 horizontal tubes
80 vertical tubes

magnet and calorimeters

2003-10

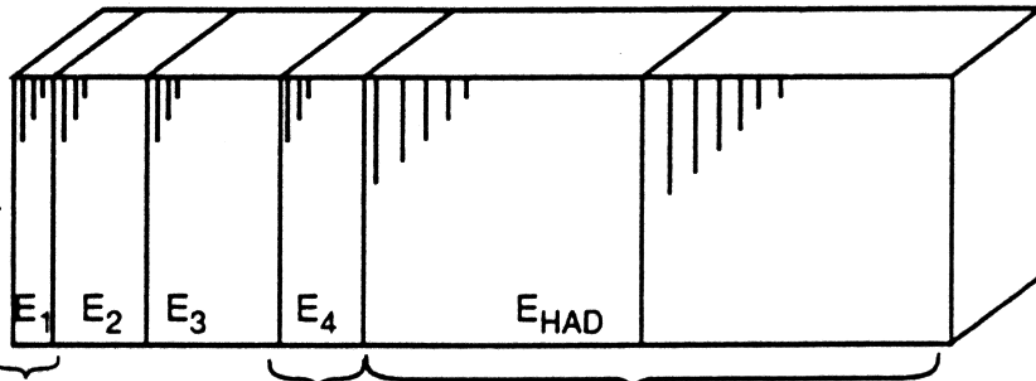
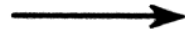


GONDOLA

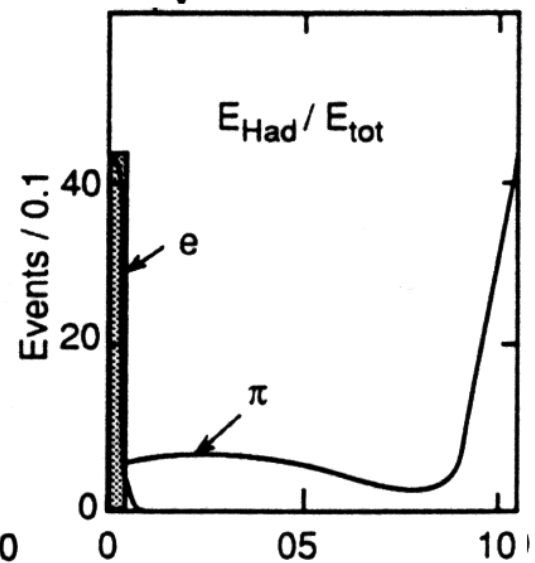
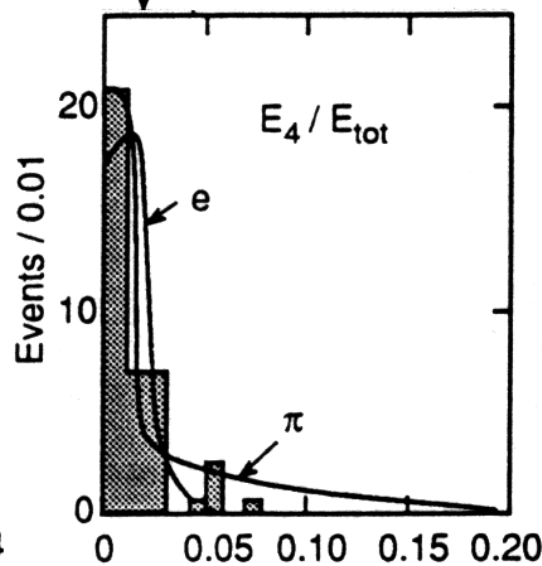
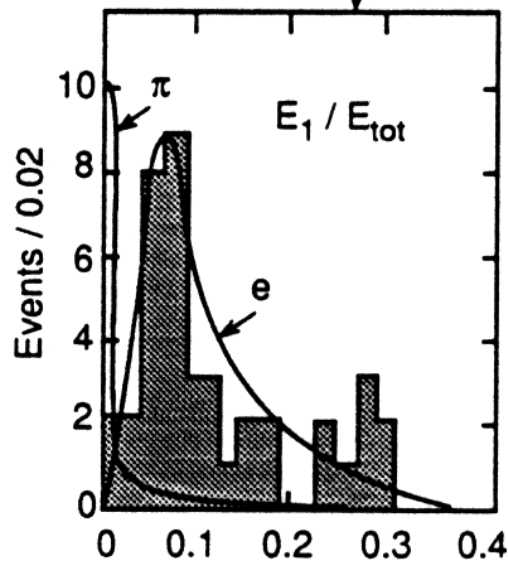
HADRON CALORIMETER

a)

electron —
hadron
separation

 e, π 

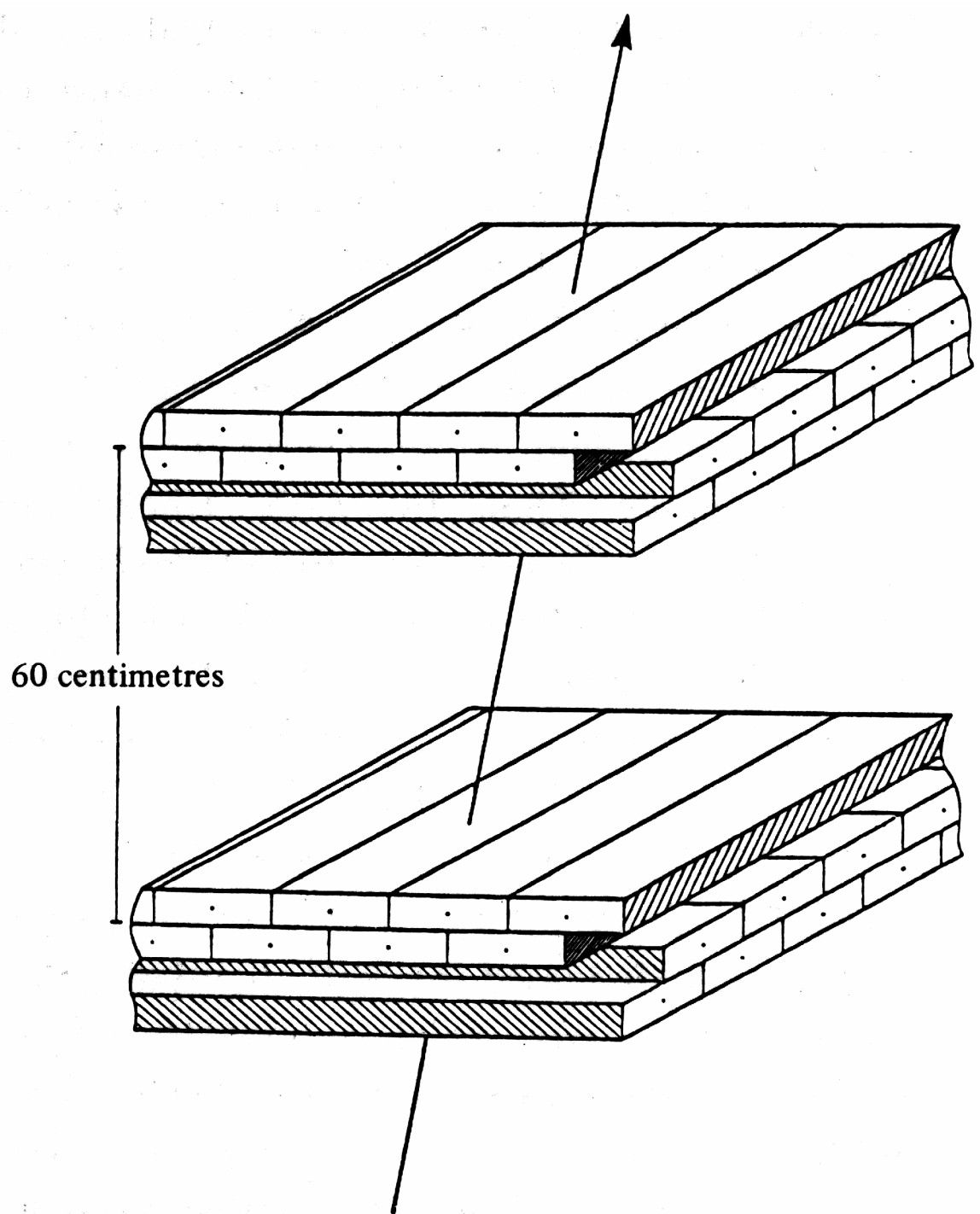
ENERGY DEPOSITIONS



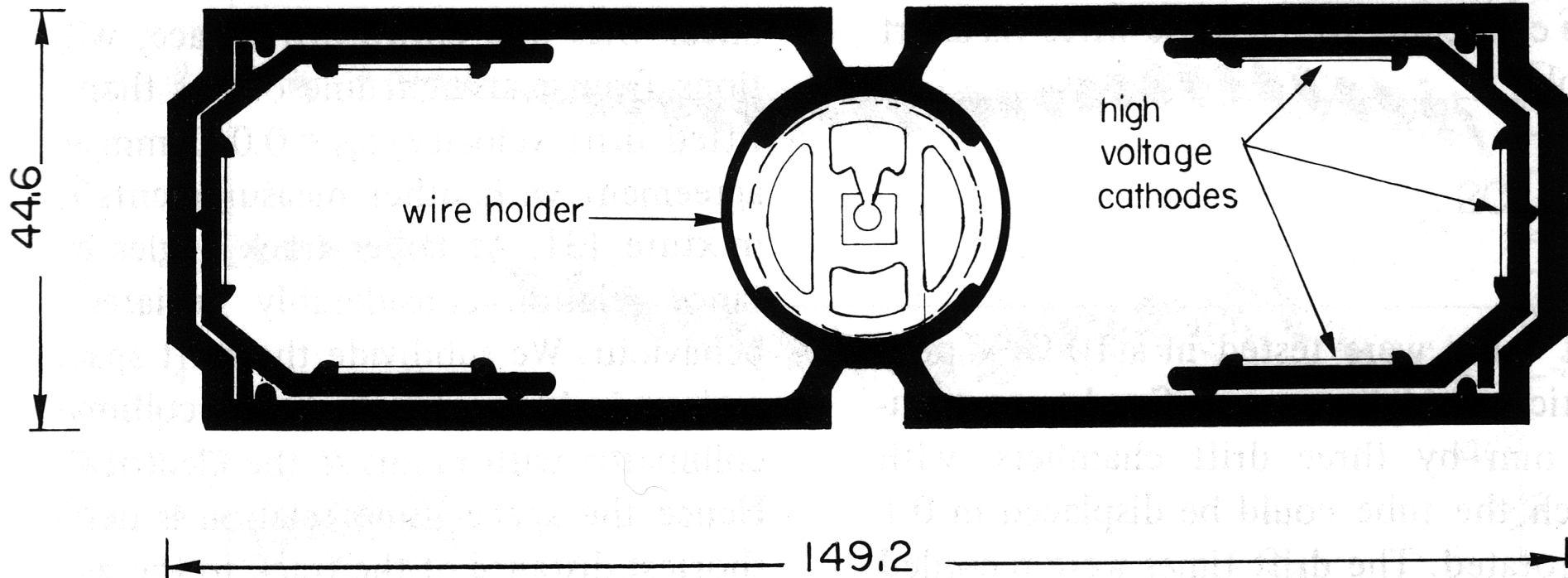
Fraction of energy deposited

b)

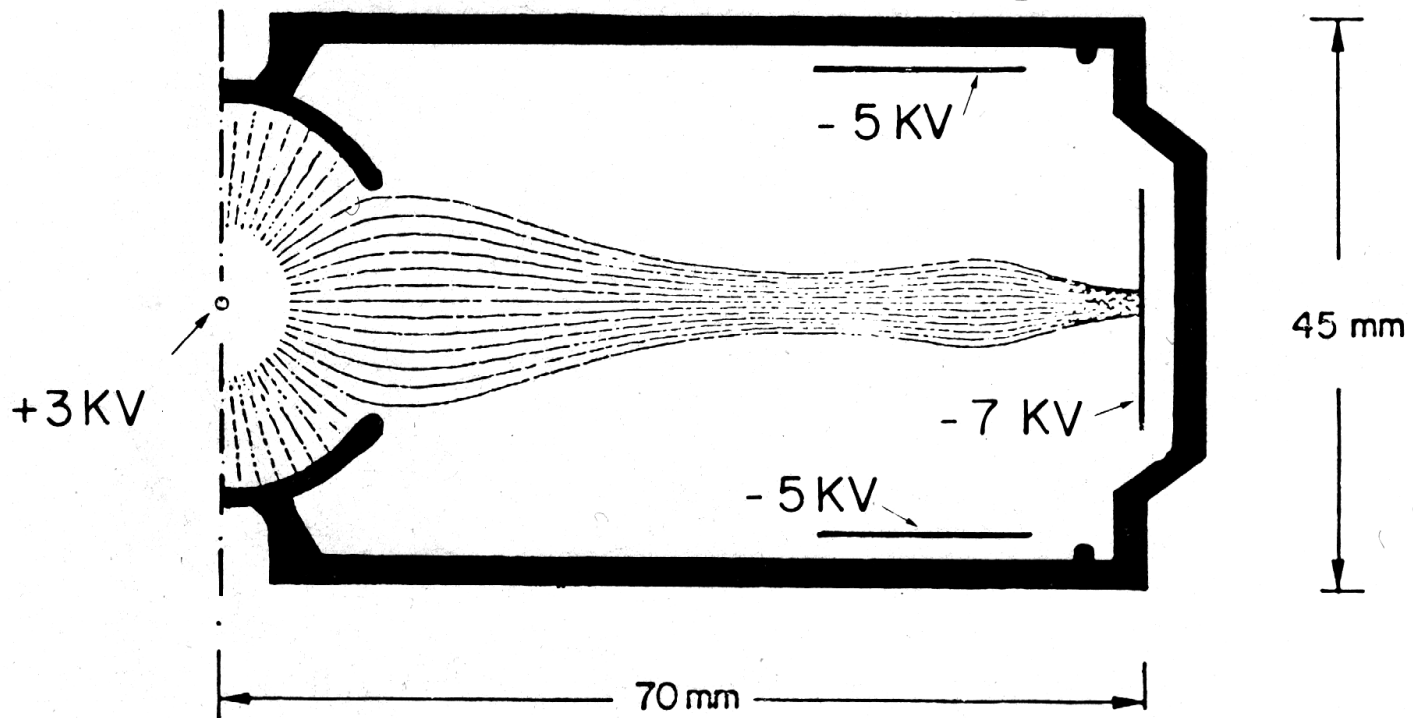
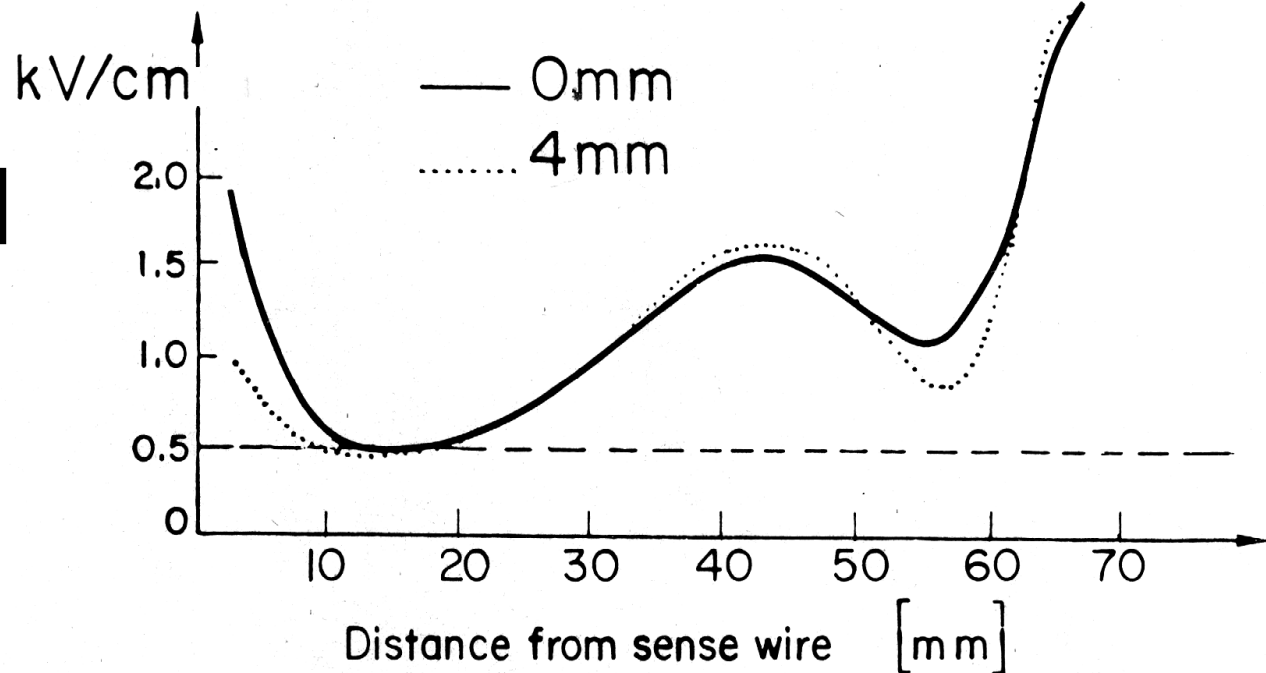
muon chambers



muon drift cell



muon drift field



forward detector

