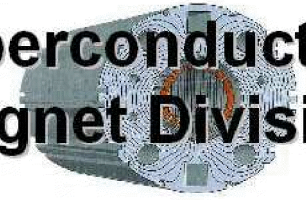


Overview of BEPC-II Superconducting Magnet Parameters

Presented by
Brett Parker/BNL-SMD

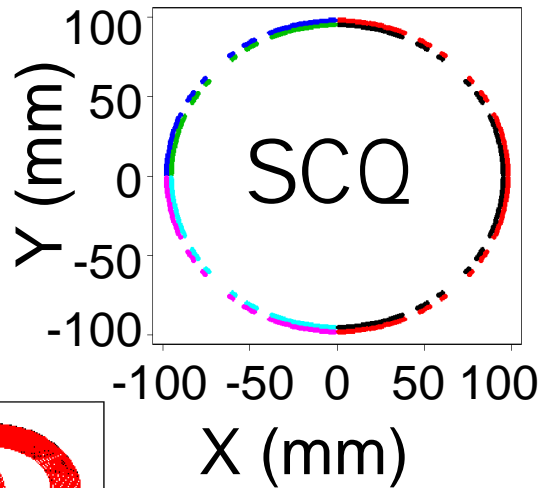
BEPC-II Quadrupole and Dipole Superconducting Magnet Division



SCQ

$$L_{\text{coil}} = 496 \text{ m m}$$

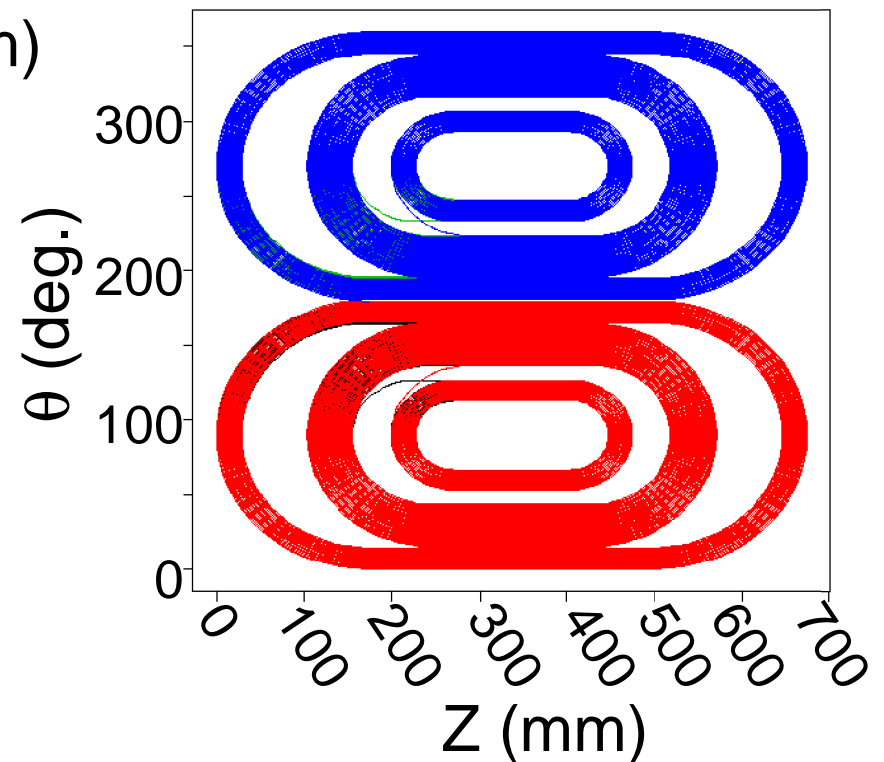
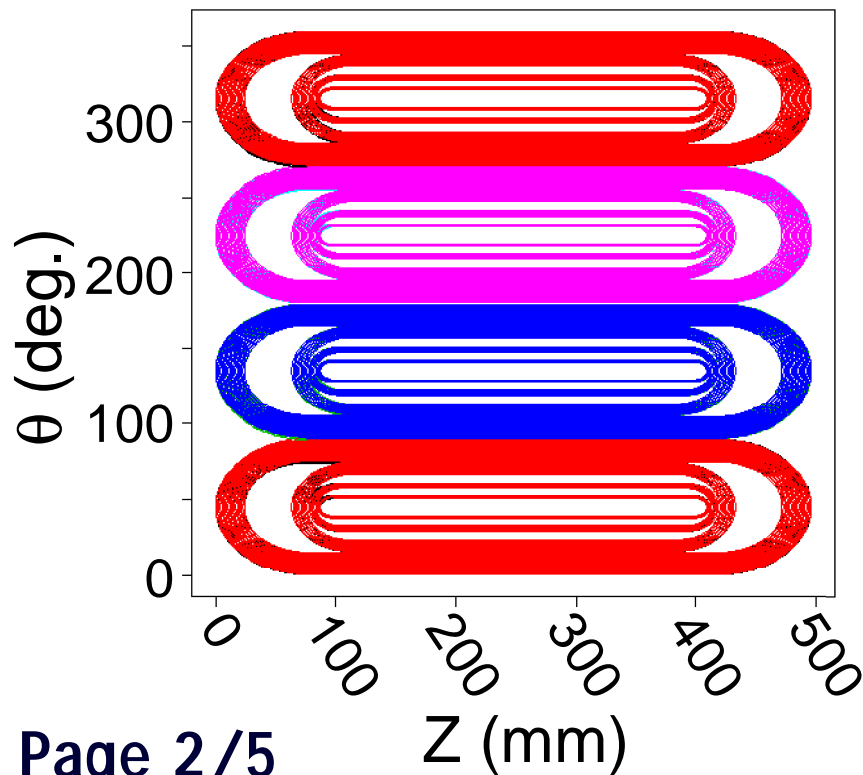
$$L_{\text{mag}} = 400 \text{ m m}$$



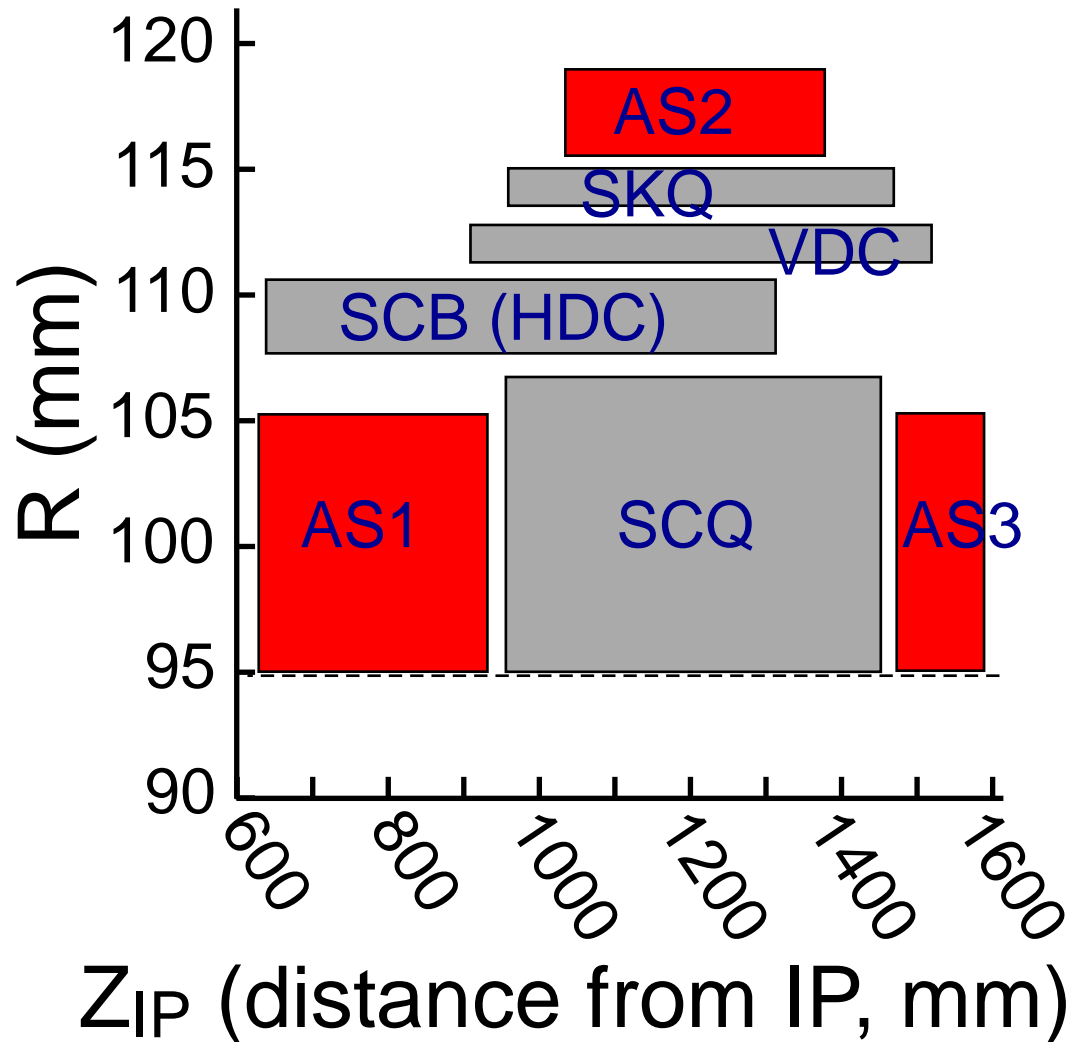
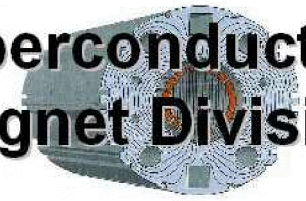
SCB (HDC)

$$L_{\text{coil}} = 674 \text{ m m}$$

$$L_{\text{mag}} = 400 \text{ m m}$$

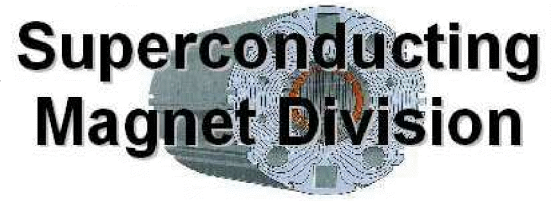


BEPC-II Coil Layout Schematic

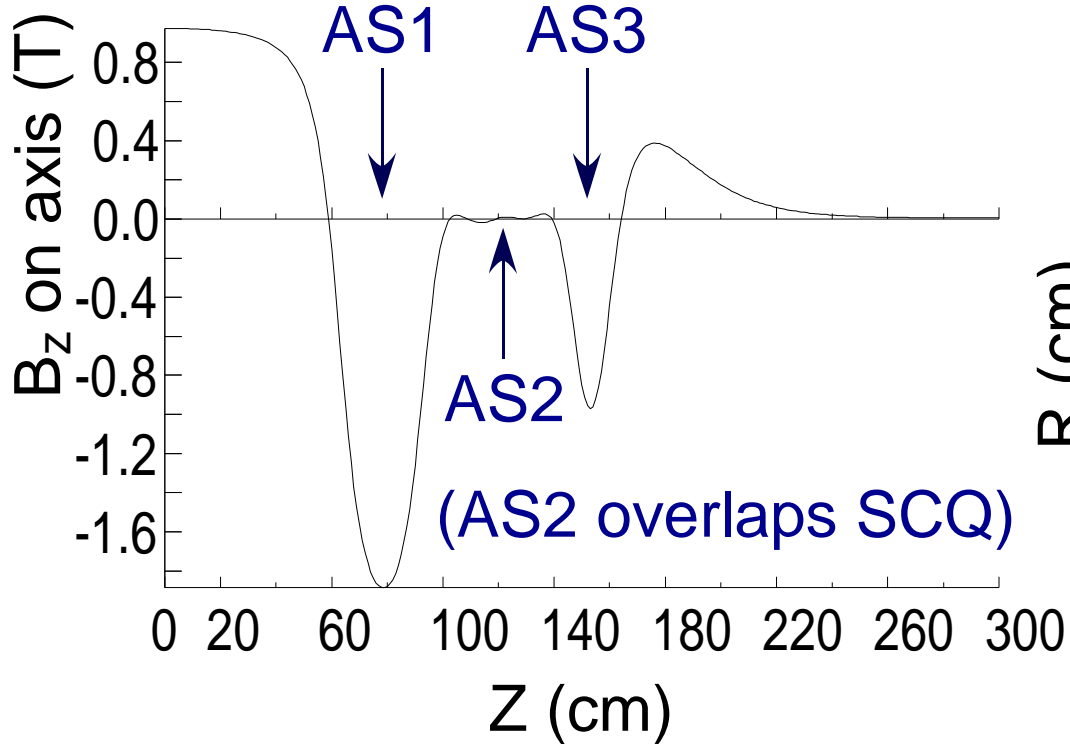


| Name | Layers | Conductor |
|-----------|--------|----------------|
| SCQ | 8 | 7 strand cable |
| SCB (HDC) | 2 | 7 strand cable |
| VDC | 2 | 1 strand wire |
| SKQ | 2 | 1 strand wire |
| AS1 | 6 | MRI wire |
| AS2 | 2 | MRI wire |
| AS2 | 6 | MRI wire |

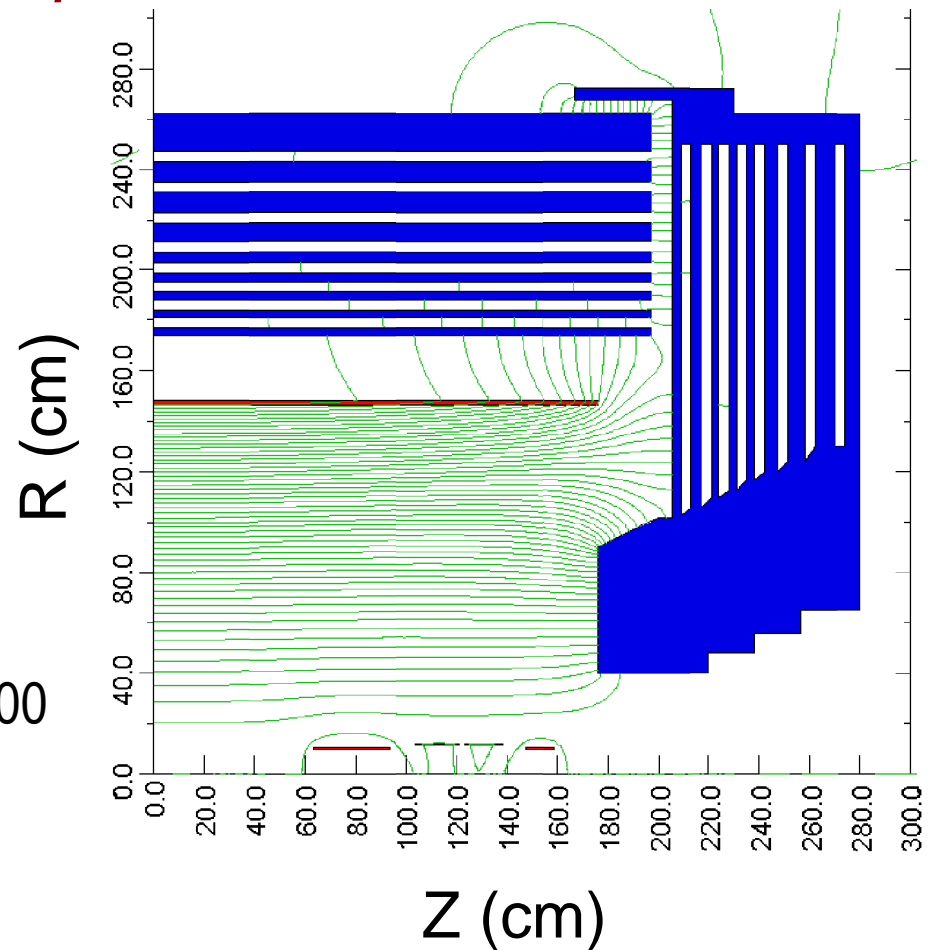
BES-III Detector and the Three Part Anti-Solenoid Compensation Scheme



AS 1-3 are connected in series,

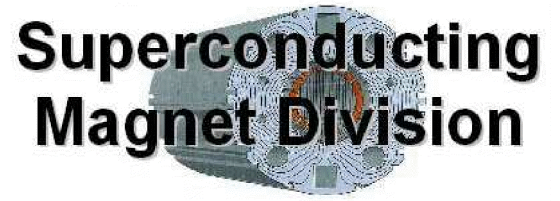


BES-III Detector



but AS 2 & AS 3 have trim s.

BEPC-II Superconducting IR Magnet Coil Parameter Summary



| BEPC-II Magnets 12-May-03 | B, G (T), (T/m) | R _{in} , R _{out} (mm) | From IP (mm) | Coil Length (mm) | Magnetic Length (mm) | Operating Current (A) |
|------------------------------|--------------------|--|-----------------|---------------------|-------------------------|--------------------------|
| AS1 | - | 95.1~105.9 | 630~933 | 303 | - | 1140 |
| AS2 | - | 115.4~119.0 | 1035~1381 | 346 | - | 1140* |
| AS3 | - | 95.1~105.9 | 1474~1590 | 116 | - | 1140* |
| SCQ | 18.744 | 95.1~108.1 | 961~1457 | 496 | 400 | 460 |
| SCB (HCD) | 0.543 0.056 | 108.5~111.8 | 633~1307 | 674 | 400 | 495 (50) |
| VCD | 0.059 | 111.9~113.5 | 904~1514 | 610 | 380 | 24 |
| SKQ | 0.937 | 113.6~115.2 | 954~1464 | 510 | 400 | 45 |

*AS2 and AS3 are in series with AS1 but can have their own independent trim currents.