

Objectives in the LOC Section for 2005

LHC data base work and optics optimization:

SPS–LHC transfer lines: optics finalization & optimization & collimation
& matching to the LHC

LHC V6.5 release: injection, lumi configurations with x–ing, transitions
data base of sample jobs, MAD input files and optics data files

LHC aperture model

MAD model based on magnet measurements and slot assignment

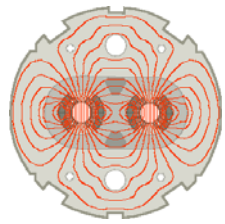
LHC magnet field quality and geometry evaluation:

finalization of field quality and geometry specifications

sector 81, 34 and 45 and IR8, IR1, IR4, IR5 and IR7 slot assignment

reference powering cycles for insertion magnet TF measurements

tracking simulations



Objectives in the LOC Section for 2005

LHC Collimation:

Collimation project management

Phase II collimation design

tolerance studies for main machine parameters

definition of operation scenarios and strategies (specification team)

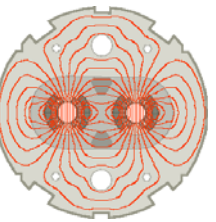
LHC commissioning preparation:

define LHC commissioning organisation (in collaboration with LHCOP)

definition of procedures and algorithms for machine debugging

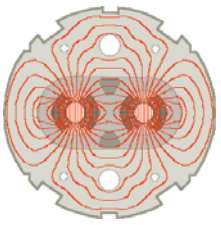
participation in the application software design

develop expertise in machine operation and commissioning in other machines (e.g. PLL at RHIC)



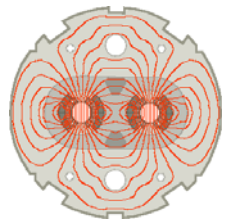
Objectives in the LOC Section for 2005

- ***LHC performance simulation studies:*** DA, flexibility, etc
- ***Tools:*** MADX and Sixtrack support & development
MADX collaboration → international & inter laboratory effort
- ***LHC upgrade studies:***
definition of ultimate machine parameters
IR upgrade studies
- ***Other I:*** Training and schools: CERN summer school, HST, JUAS and CAS
LHC reviews: MP; LHC hardware commissioning, MAC....
- ***Other II:*** many LOC members contribute also to other sections and tasks!



Who does What in 2005

- ***LOC Section leader:*** → OB → MG
- ***LHC data base work – transfer line optics:*** → TR & HB; F–AK
- ***LHC data base work – MAD model:*** → TR & MG & (SF)
- ***LHC data base work – optics:***
 - optics assembly → TR
 - WWW display → JJ
 - nominal optics for IR1 & IR5 → SF
 - IR2 → Gianluigi Arduini (OB)? → JJ
 - IR3 & IR7 → TR
 - IR4 & IR6 → AV → MG
 - IR8 → AL (TR)
- ***LHC data base work – aperture:*** → JBJ, F–SR, TR, (JJ)



Who does What in 2005

LHC magnet field quality and geometry:

ABP Magnet Activity Coordinator → SF

WGA chairman → JBJ

MEB scientific secretary → MG

FQWG → OB, SF, MG, AL

LHC aperture → JBJ

–system responsibility (main + corr): main dipole magnets → SF (JBJ)

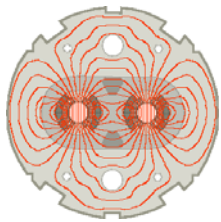
(specification write-up and SSS assembly → AL

element-by-element follow-up) insertion magnets → MG

triplet magnets → FS

–support for geometry analysis for all elements → JBJ

–one additional staff post for MB and geometry analysis



Who does What in 2005

LHC collimation:

LHC Collimation Project Leader → RA

–collimation team in ABP: → RA; F–SR; S–GRD

–plus one additional student in 2005 and support from IHEP and JBJ

LHC commissioning preparation:

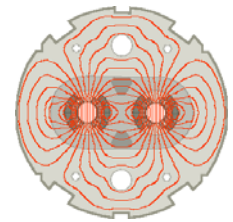
–LTC Scientific Secretary → OB LTC members: → RA, SF, MG,

open meetings → active participation of ALL LOC members is encouraged

–LHCOP → OB

MAD model implementation in the LHC control system → FS

participation in machine operation & feedback for application software



Who does What in 2005

● **Tools:**

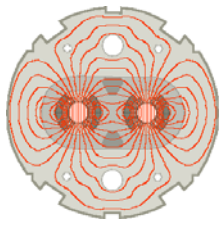
–Sixtrack and ‘run–environment’ for DA studies:→ FS (+ support from EMcI)

–MADX custodian: → FS secretary of MADX meetings: → TR

–MADX module distribution in LOC:

survey	→ AV → FT
tracking	→ AV → F–AK
thin lens converter	→ HB
aperture	→ JBJ
EMIT	→ RA
TWISS	→ FS
PTC	→ FS
MATCH	→ OB
threader	→ TR
PLOT	→ S–RDM

–plus contributions from other sections, groups and laboratories



Who does What in 2005

● *LHC upgrade studies:*

–LHC IR layout and optics studies: → OB, S–RDM

● *Other I:*

–CERN Summer School: → OB

–HST: → OB?

–JUAS: → RA, OB, AL

–CAS: → OB, AL

–Cern academic training: → RA