

# Task 2.3 activities status

M. Giovannozzi

- Recap of work packages
- Latest activities and future steps
- News

Partners: BINP, CEA, CERN, CSIC-IFIC, EPFL, INFN-Frascati, SLAC, Uni-Liv, Uni-Man

# Work packages break down - I

- IT, D1, D2, Q4, Q5, field quality for layout with IT (123 T/m), round and flat: Y. Cai, Y. Jao, Y. Nosochkov, M. Wang
- IT correctors specifications for layout with IT (123 T/m): S. Fartoukh, R. de Maria
- Tune scans and phase space analysis with layout with IT (123 T/m): Y. Cai, Y. Jao, Y. Nosochkov, M. Wang
- Slightly change in the team: Y. Jao went back to China, M. Wang moved to collimation studies.
- Field quality simulations for new triplet in full swing -> see presentation by Yuri.
- Once finished, the field quality of the other magnets should be considered (starting from D1, Q4, D2, Q5)
- IT correctors specification: re-assigned to MG. First results expected by November.
- Detailed phase space analysis is last item, but some strange “features” have been already observed.

# Work packages break down - II

- IT and D1 field quality specification for layout with IT (150 T/m), round and flat: J. Payet, A. Chancé
- D2, Q4, Q5 field quality specification for layout with IT (150 T/m): M. Korostelev, K. Hock
- IT correctors specifications for layout with IT (150 T/m): S. Fartoukh, R. de Maria
- Tune scans and phase space analysis for layout with IT (150 T/m): E. Levichev, P. Piminov
- Activities just started (the delay with respect to the other layout was planned):
  - setting up of accounts;
  - first tests of scripts;
  - check of Boinc system (LHC@home)
- Some simulations using the estimated field quality of triplets already performed (MG) to probe the situation.

# Work packages break down - III

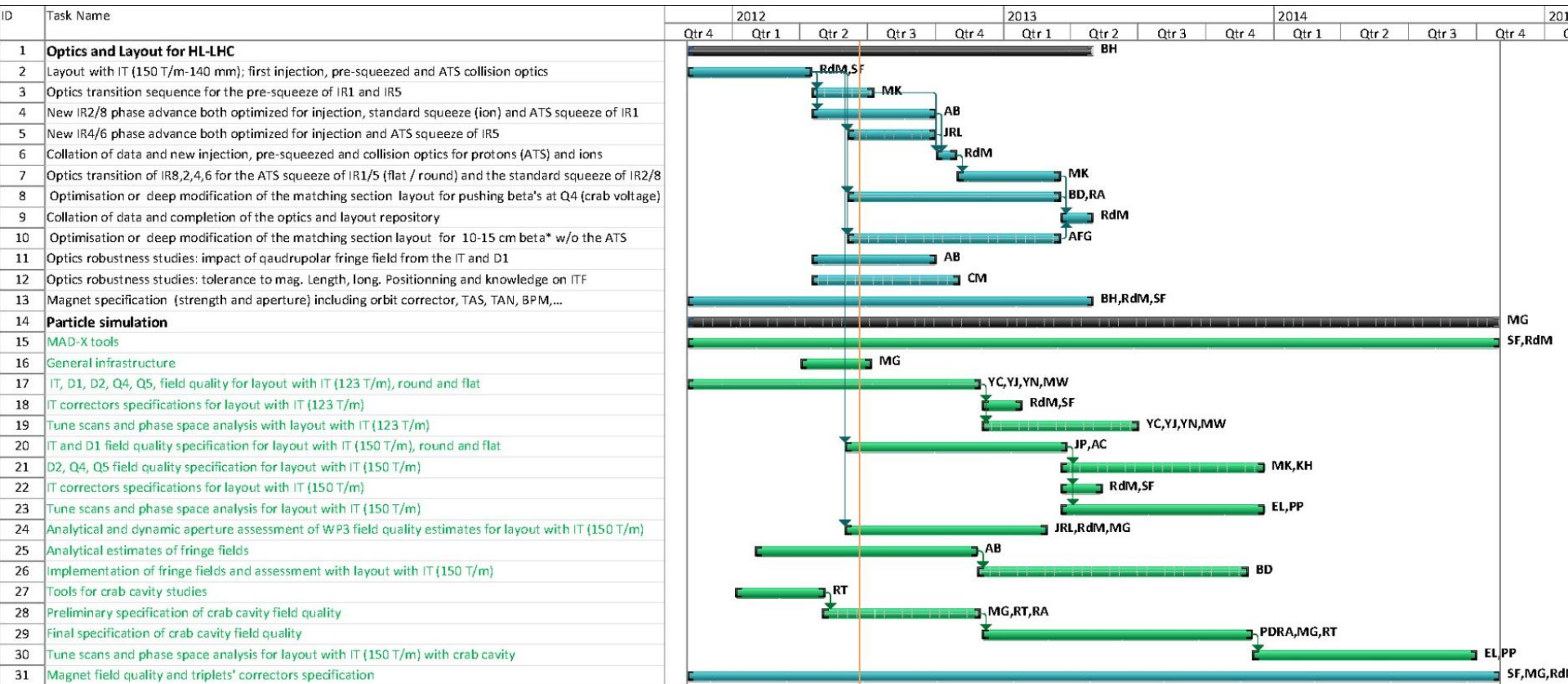
- Analytical and dynamic aperture assessments of WP3 field quality estimates with layout with IT (150 T/m): J. Resta Lopez
- First simulations started progress is expected in about one month.
- Analytical estimates of fringe fields: A. Bogomyagkov
- Implementation of fringe fields and assessment with layout with IT (150 T/m): B. Dalena
- Analytical estimates worked out -> see presentation by Anton
- Implementation in SixTrack should start next
- New activity: tools to install special multipoles representing fringe fields of triplets -> Angeles

# Work packages break down - IV

- Tools for crab cavity studies: R. Tomas
- Preliminary specification of crab cavity field quality: R. Appleby, M. Giovannozzi, R. Tomas
- Final specification of crab cavity field quality: PDRA, M. Giovannozzi, R. Tomas
- Tune scans and phase space analysis for layout with IT (150 T/m) with crab cavity: E. Levichev, P. Pimonov
- Implementation of RF multipoles:
  - MAD-X -> completed
  - SixTrack -> completed
- First results from numerical simulations using estimated field quality of crab cavities (A. Grudiev et al., IPAC12) available. A presentation will be given at the LCU section meeting next Monday.
- Activities based on symplectic maps are progressing in parallel at Manchester.

# Gantt chart

- Disclaimer: next to impossible to represent actual resources (in FTE or ppm) to a Gantt chart. Time line is indicative and not to be used to evaluate allocated resources.



# General news - I

- Workshop of Task 2.2 in September
- HLLHCV1.0 optics layout to be released in November!
- WP3 activities:
  - Estimates of field quality for new triplets available.
  - Estimates of field quality for new D1 should be available in few weeks.
  - Estimates of field quality for new Q4 should be available shortly after D1.
  - No estimate available for D2.

# General news - II

- Next week: visit to LNF to discuss with BINP collaborators.
- Next week: reporting to EU about activities after one year of HiLumi.
- General HiLumi workshop in Frascati (14-16 November).  
Task 2.3-related presentations:
  - General review of Task 2.3 activities -> MG
  - Field quality results for new triplets -> YN
  - Status of crab cavity field quality studies -> JB
  - Specifications of triplets non-linear corrector package -> MG