CLIC main activities and goals for 2018

For CLIC four main priorities have been identified for 2018:

- A re-baselined project implementation with new parameters sets for a staged implementation, cost and power optimised also for the initial stages
- The systemtest programmes in CTF3, related to the drivebeam FE, at ATF and in FACET, as well as exploring systemtests beyond these facilities for example in collaborative programmes with light-source laboratories
- Xband development and significantly increased test-capacity for structures
- Technical systems developments, related among others to modules, alignment/stability, instrumentation and power sources.

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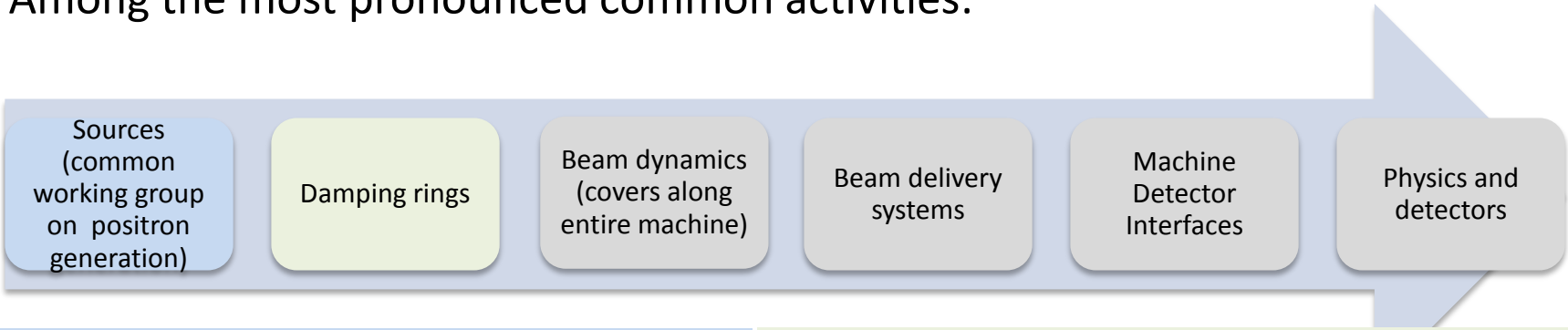
- Demonstration of critical elements and methods for the machine performance:
  - ✓ DR, main linac, BDS with associated instrumentation and correction methods (combination of design, simulation, system-tests and technologies)
  - ✓ Stability/alignment (locally and over distances)
  - ✓ Module including all parts

LCWS 2013

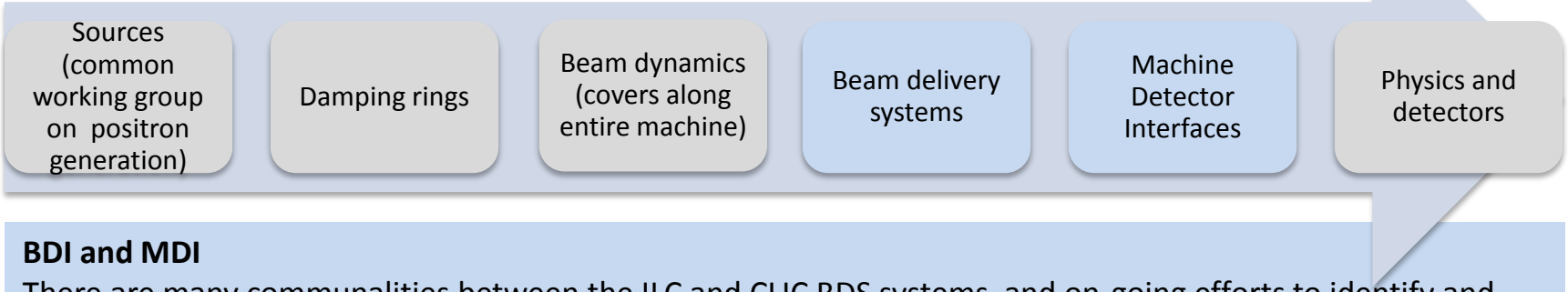
Even though the basic acceleration technologies are different for CLIC and ILC, many areas have common challenges and potentially common solutions whenever the requirements are similar.
Among the most pronounced common activities:



For CLIC the on-going and planned activities related to **sources** should be reviewed with a five year perspective, in particular identifying parameters and issues particular to the CLIC design that are already or need to be addressed by the collaboration. In general common development work for ILC and CLIC should be encouraged and arranged wherever possible.

For CLIC **DR activities**, also in this case in addition to reviewing the status, the work to establish new baseline parameters – and consequently performance, costs and power consumptions - and experimental programme, including collaborative projects with light-sources, in the forthcoming five year period should be reviewed, linking to the ILC programme wherever possible.

LCWS 2013

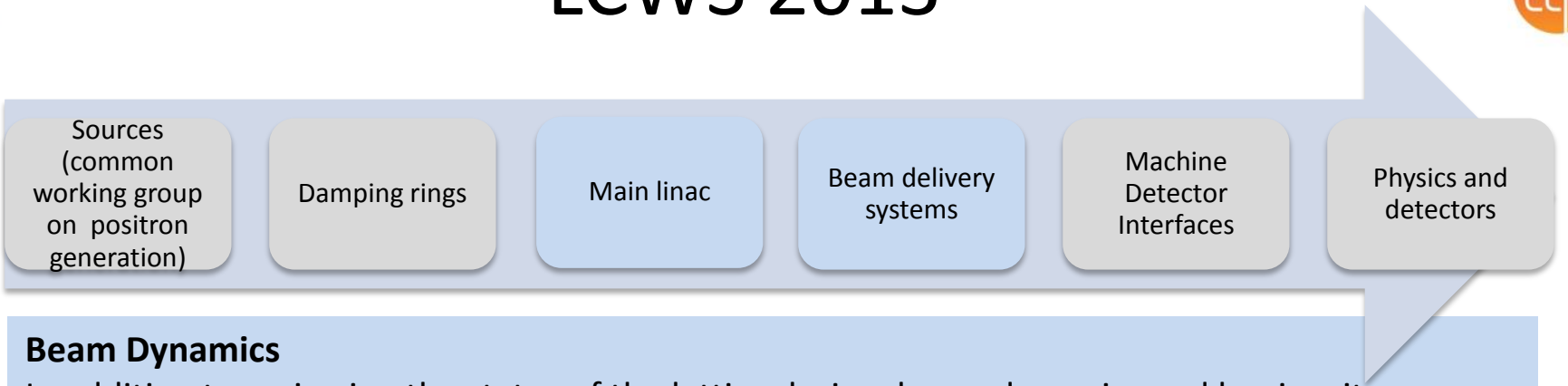


BDI and MDI

There are many communalities between the ILC and CLIC BDS systems, and on-going efforts to identify and pursue common paths. The primary R&D programme for the BDS is the ATF2 programme and it is expected this programme (and possible extensions of it) to be a focus of R&D discussions in this working group – partly also in WG6. Furthermore, in conjunction with the detector MDI sessions, it is expected that plans for a re-evaluation of the experimental hall and support infrastructure in light of the recent ILC site decision in Japan to begin. These three important aspects should be addressed in the workshop. However, there are several key aspects of the overall BDS designs which need to be considered, and the WG should make an initial assessment and produce plans to address them:

- The status the current BDS lattices (including the extraction lines) should be reviewed, with a view to producing configurations for all centre-of-mass energies under consideration.
- As part of the above, the collimation system requirements should be reviewed and updated as necessary.
- Furthermore, a complete review of the extraction line to main dump should be made, again with a view to bringing the existing lattice designs up-to-date with the operation modes under discussion.
- Beyond the ILC TDR, possible scenarios for a first-stage construction for the BDS at a beam energy of 125 GeV should be considered. The goal, for both ILC and CLIC, is to develop lattices that could be implemented for the lower-energy operation and later upgrade for higher energy.
- Current R&D status for final doublet solutions, including consideration of low energy operation should be reviewed and reported on. Recommendations for next phase R&D programmes should be made.
- Impedance issues for the BDS should be carefully reviewed, and tolerances on vacuum system components updated.
- Develop further the definition of the interfaces between BDS and MDI.

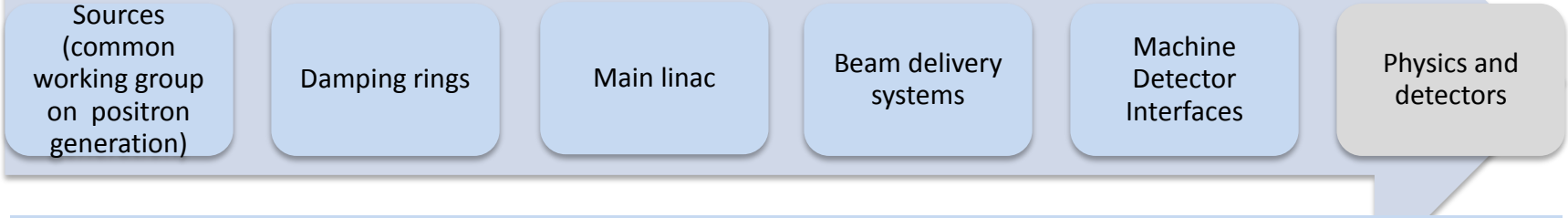
LCWS 2013



Beam Dynamics

In addition to reviewing the status of the lattice design, beam dynamics and luminosity performance studies for ILC and CLIC RTML and Main Linac, the WG should consider operation beyond the TDR baseline (for ILC: 10 Hz operation with the high current operation- 2625 bunches for high luminosity upgrade). Special attention to the feed-back system performance including analysis of results from beam-based alignment studies experiment at FACET. Working group should participate in discussion of ATF-II results and lessons-learned and studies focus on comparison of performances ILC and CLIC beam delivery systems. WG should consider options for experiments at other facility and discuss plans for the future work.

LCWS 2013



System Tests and Performance studies

Luminosity performance of LCs is often raised as a concern, in part due to very limited experience with such machines. The concerns range from the ability to produce and handle beams with the necessary emittances, size and general quality, alignment and stability, complexity of correction methods and feedbacks, understanding and benchmarking of simulation and modelling, instrumentation specifications and performances, reliability and robustness of hardware and corrective methods.

This WG is expected to address these issues in view of the ILC and CLIC on-going, planned or desired simulation, modelling and in particular either on-going or possible experiments at existing test facilities (examples of relevant test facilities are ATF, CTF3, CESR, Facet, light sources (including XFELs)).

The goal is to address the most critical performance issues for future LCs by a combination studies and experimental measurements, providing guidance and priorities to experimental programmes in the coming years, and identifying new possibilities for addressing such questions in existing or foreseen accelerator facilities in the coming decade.

CLIC Workshop 2014

3-7 February 2014
CERN
Europe/Zurich timezone

Search

Link: http://indico.cern.ch/conferenceDisplay.py?confId=275412

This workshop will cover **Accelerator as well as the Detector and Physics studies**, with its present status and programme for the coming years.

For the Accelerator studies, the workshop spans over 5 days: Feb 3rd-7th
For the Detector and Physics studies, the workshop spans over 3 days: Feb 3rd -5th

Please register by filling-in the registration form in the left menu.

Common parts:

1. There will be an open plenary session on Monday afternoon February 3rd, giving an overview of the CLIC project (accelerator, physics/detector), placed in the context of other studies for machines at the energy frontier.
2. Workshop dinner on Wednesday evening

Dedicated **Accelerator sessions**:

1. Parallel sessions on Tuesday and Wednesday, where we attempt to have presentations of as many as possible of the activities inside the CLIC/CTF3 collaboration, and also some special meetings related to key "CLIC technologies" (for example FP7 project and WP meetings with strong links)
2. A session Thursday covering High Gradient NC accelerators for industrial and medical applications as well as XFELs, using CLIC and other high gradient technology developments
3. A plenary session on the Friday morning focussing on systemtests of key CLIC challenges
4. A Collaboration Board Friday afternoon

Dedicated **Detector and Physics sessions**:

1. Parallel sessions on Tuesday and Wednesday chaired by co-conveners, attempting to give an overview of the current activities and future plans
2. An Institute Board meeting on Tuesday early evening.

We are looking for the widest possible participation and in particular we will encourage presentations and involvement of younger colleagues.