ALEGRO WG5 (ALEGRO FORTE)

Edda Gschwendtner, Patric Muggli, Jens Osterhoff

Agenda

Session 1: ‘Strategy’

Session 2 ‘Plasma based injectors’

‘Plasma based injector concepts and beam quality’, B. Hidding

‘extension of CLIC-drive beam concept to 20 GeV for a PWFA-based colider’, Daniel Schulte

Session 3 ‘Drive beam acceleration design’

’Hosing, BBU’ Vladyslav Libov

‘Emittance preservation in plasma wakefield accelerators’ T. Mehrling

Limitations efficiency versus instability, B. Chen

Session 4,, Jointly with WG1 and WG2

Talk: ‘proton driven PWA schemes’, E. Gschwendtner

…

Session 5, ‘Positrion acceleration’, joint with WG8

Session 6, ‘Beam quality preservation and staging’

‘Staging of PWAs’ E. Adli

‘Polarisation preservation’ J. Vieira

Session 7, ‘Identification of possible facilities and next steps’

‘Overview of (current and future) PWFA facilitates and their unique capabilitites' M. Hogan

Wrap-up.

Strategy of WG5 Chapter for ESGG Document

General Input: valid for all WGs

- Motivation
  - Long-term vision:
    - 30 TeV CM collider, e+e-, gamma/gamma
  - Mid-term vision:
    - Upgrade of existing linear colliders (ILC, CLIC)
    - Plasma Electron Proton/Ion Collider (PEPIC)
    - Fixed target experiments

WG5 Chapter

- Short-term vision:
  - Need strong R&D program (tbd today…)
  - what is achieved already ?
  - what are the next milestones ?
  - what are the possible show-stoppers, and how can these be addressed?
  - What are the planned near term test facilities or 1/2-stage demonstration accelerators?
  - What is the interested community?

Strategy for ALEGRO FORTE

- Identify and prioritize key challenges for PWFA based HEP
- Review facilities
- Identify new facilities
  - Identify overlap with LWFA
- Coordinate studies within ALEGRO FORTE