Abstract: ALEGRO, the Advanced LinEar collider study GROup is an international study group promoting advanced and novel accelerators (ANAs) for high-energy physics applications. ALEGRO organizes one workshop each year as well as meetings at prominent ANAs conferences (EAAC, AAC, etc.). ALEGRO also submitted an input to the European Strategy for Particle Physics Update (ESPP) process and was represented at the ESPP meeting in Grenada. We will present a summary of the last workshop (CERN, March 26-29, 2019), as well as of the ESPP meeting in order to inform the EAAC audience and encourage it to contribute to the important goals of ALEGRO.

ALEGRO (Advanced LinEar collider study GROup) is a study group towards Advanced Linear Colliders. ALEGRO's general charge is to coordinate the preparation of a proposal for an advanced linear collider in the multi-TeV energy range. Outcome of the Advanced and Novel Accelerator Concepts Roadmap Workshop, CERN, March 25-28, 2017, organized by the ICFA-ANA Panel.

Next ALEGRO Workshop: DESY, March 24-27, 2020

Update on ALEGRO activities

ALEGRO Collaboration

Tohoku University (Japan)
Radiasoft (Boulder, CO, USA)
Univ. Tokyo (Japan)
University of Wroclaw (Poland)
JLAB (Newport News, VA, USA)
North Illinois Univ. and Fermi National Accelerator Laboratory (USA)
Imperial College London (UK)
Univ. of Colorado (Boulder, CO, USA)
FAU (Germany)
Univ. Durham (UK)
Univ. Strathclyde (Glasgow, UK)
NRL (USA)
JAI and Dept. of Physics (Univ. Oxford, Oxford, UK)
IST (Lisbon, Portugal)
TechsX Corporation (Boulder, CO, USA)

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North Illinois Univ. and Fermi National Accelerator Laboratory, USA
Imperial College London, UK
Univ. of Colorado, Boulder, CO, USA
FAU, Germany
Univ. Durham, UK
Univ. Strathclyde, Glasgow, UK
NRL, USA
JAI and Dept. of Physics, Univ. Oxford, Oxford, UK
IST, Lisbon, Portugal
TechsX Corporation, Boulder, CO, USA

Proton bunch driver

Specific components for compact accelerators
Beam transport under design for Eupraxis plasma experiments at DESY, INFN Frascati

Systematic simulation studies in the Frame of Eupraxis to identify the best way to optimize electron beam parameters

RL1 250-500 MeV + LPNS (quasilinear regime)
LPI 150 MeV (RDEPFL) + LPNS (quasilinear regime)
RF1 500 MeV + LPNS (quasilinear regime)
Decoupled injection from acceleration: two stages: end-in-the-injection stage itself (RF)

Positron acceleration

Multi-stage laser driven acceleration to multi-GeV in preparation: Essential for collider scheme (TeV energies)

APOLLON facility
Bella upgrade

Magnetic field map and RF structure of Eupraxis

Eupraxis plasma experiments

Plasma
Compact Ringing Waves
In the Plasma Generation
Post-Plasma Generation
Valve
Plasma Beam Generator
PLIF"