



Contribution ID: 119

Type: **Invited talk**

EARLI: designing a LWFA for AWAKE Run2

Monday, September 19, 2022 6:50 PM (20 minutes)

Following a successful Run 1 experiment, AWAKE has developed a baseline plan for Run 2 that requires the implementation of a compact electron source for external injection of a witness bunch in the plasma wave. The feasibility of using a laser wakefield accelerator (LWFA) to produce the electron bunch is investigated. The EARLI project (Electron Accelerator driven by a Reliable Laser for Industrial uses) aims to design injectors ready for applications, the first being a stand-alone injector that meets AWAKE requirements. EARLI includes a laser system, a plasma cell and a transfer line, able to produce a high-quality electron beam and reliable and stable over long periods. For the EARLI design, methods from conventional accelerators are applied to the LFWA physics.

Authors: Dr MINENNA, Damien (CEA IRFU); CROS, Brigitte (Laboratoire de Physique des Gaz et Plasmas); BETHUYS, Stéphane (THALES LAS France); MASSIMO, Francesco (Maison de la Simulation - CEA); MOULANIER, Ioaquin (Laboratoire de Physique des Gaz et Plasmas); NGHIEM, Phu Anh Phi (CEA); RICAUD, Sandrine (Thales LAS France); SIMON-BOISSON, Christophe (THALES OPTRONIQUE SAS)

Presenter: Dr MINENNA, Damien (CEA IRFU)

Session Classification: Special Topic