Contribution ID: **131** Type: **Oral presentation using Zoom**

Update on the Development of the Active Plasma Lens as an Alternative Optical Matching Device

Wednesday 27 October 2021 23:00 (30 minutes)

The optical matching device (OMD) is responsible for matching the positron beam, produced in the target, according to the damping ring acceptance. This makes the OMD a crucial component for the number of positrons available in the collision experiments. The active plasma lens (APL) is a current-carrying plasma with the potential of being an innovative alternative for traditional OMD concepts as, for instance, the quarter wave transformer (QWT). This is due to its azimuthal magnetic field, which leads notably to focusing in both planes and due to minimal eddy currents inside the rotating target. Furthermore the plasma is transparent for incoming beams. Simulations with the ASTRA code suggest an increase in number of captured positrons by up to 40% relative to the ILC's current QWT design. Recently a German funding grant has been approved for further theoretical and experimental research, including setting-up a prototype experiment.

1st preferred time slot for your oral presentation

19:00-21:00 JST (12:00-14:00 CEST, 6:00-8:00 EDT, 3:00-5:00 PDT)

2nd preferred time slot for your oral presentation

15:30-17:30 JST (8:30-10:30 CEST, 2:30-4:30 EDT, 23:30-1:30 PDT)

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Session Classification: R-1: Machine - Sources

Track Classification: Parallel sessions: Accelerators: Session R: Machine - Sources