



Contribution ID: 37

Type: **not specified**

Witness injection via laser-solid interaction for plasma wakefield accelerators

Wednesday 12 June 2024 13:35 (15 minutes)

We present a laser-assisted electron injection scheme for beam-driven plasma wakefield acceleration. The laser is colinear with the driver and triggers the injection of hot electrons into the plasma wake by interaction with a thin solid target. We explore the scheme through numerical simulations, using the AWAKE Run 2 parameters as a baseline. The final beam quality is better than similar proposed schemes, and several avenues for further study are indicated. The constraints on the AWAKE experiment are very specific, but the general principles of the mechanism can be applied to future beam-driven plasma wakefield accelerator experiments.

Author: Dr WILSON, Thomas (University of Strathclyde)

Presenter: Dr WILSON, Thomas (University of Strathclyde)

Session Classification: Parallel talks