

Laser and Beam Diagnostics Tools for the L3IA facility at Pisa

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The main goal of L3IA project is to establish an outstanding beam-line operation of a laser- plasma source in Italy. In particular, our goal is to provide the laser-driven ion acceleration with the Target Normal Sheath Acceleration (TNSA) mechanism.

L3IA will be ready to operate at the ILIL installation in Pisa at a first laser driver power of 100 TW in the first half of 2017, focusing on the identification of the laser-target interaction and the acceleration regime suitable for a reliable operation of the test facility.

In this paper we will discuss all the laser and proton beam diagnostic tools we have developed so far and tested taking advantage of the existing 10 TW laser and test experimental chamber available at the ILIL laboratory in Pisa.

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