

Rámcové téma práce č. 19: Real-time diagnostics and targetry for laser-driven ion beams in repetition rate regime

Typ práce: VÚ

Vedoucí práce: Dr. Daniele Margarone, PhD.

Kozultant(i): prof. Ing. J. Limpouch, CSc.³³

Abstrakt: Research project is devoted to test real-time diagnostics and target handling systems aimed to be used for the generation and characterization of high intensity laser driven ion beams in repetition rate regime. The work will include an overview of standard diagnostic systems used for high energy (multi-MeV) ion beams generated by laser-plasmas, and an upgrade of detectors already available in our laboratories. Further work will be done by Mr. Kaufman, especially concerning the design and modelling of an experiment at the 25 TW, Ti:Sapphire laser system available at the PALS Centre in Prague. Data analysis, concerning the laser plasma ion characterization through time-of-flight techniques, will also be performed and possibly included in a scientific manuscript. A possible participation in an experimental campaign at APRI-GIST (Republic of Korea), PW-class laser facility is anticipated. This work will be done within the ELI-Beamlines pan-European project in Czech Republic.

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