PhD Position at ELI-Beamlines Research Group
and Hamburg University

Topic: Development and commissioning of the LUX beamline for ELI Beamlines
petawatt laser

The ELI (Extreme Light Infrastructure) Project is an integral part of the European plan to build
the next generation of large user and research facilities. ELI-Beamlines, as a cutting edge laser
facility, is currently being constructed in Prague, Czech Republic. ELI will enable interaction of
light and X-ray with matter at extremely high intensities. One of important experimental
projects at ELI is the Laser Undulator X-ray (LUX) source, which will be commissioned in 2016
towards a user beamline. The LUX source is currently being developed in collaboration with the
LAOLA collaboration (laola.desy.de) at DESY/Hamburg University.

A successful candidate shall significantly contribute to the design, construction, commissioning
and initial experiments of the LUX laser-driven wakefield accelerator (LWFA) with focus on its
operation with ELI petawatt class laser system. The successful candidate will work in the field
of laser-plasma driven electron beam accelerators and their applications as drivers for next-
generation light sources. Possible field of work include gas target development, electron beam
optics, diagnostics and radiation generation. The project will be defined considering the
preferences of the successful candidate.

Requirements

The PhD position requires a Master title in experimental physics. Knowledge in plasma and
particle physics, optics and/or detector technologies is an advantage, but not a necessity.
Good computing, hardware and software skills of the candidate are desirable.

The position is for 3 years and it is expected to lead to the writing and defence of a PhD thesis
at the Hamburg University. First two years the student will be based at DESY Hamburg, visiting
ELI Prague regularly. In the third year the student will be based at ELI Prague, involved in the
LUX beamline commissioning and initial experiments with the petawatt laser at ELI Beamlines
new site at Dolní Břežany, Czech Republic.

Applications

The position will be filled as soon as possible. Interested candidates are requested to send
(preferably via email) a short letter of application, CV, the names and email addresses of two
references and, if applicable, a list of publications to the tutor.

Supervisor at Hamburg University and LAOLA Spokesperson:
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