



# MASTERTHESIS



## Group for Laser-Ion-Acceleration

what we do

### Laser-Plasma-Acceleration

Our group is engaged in investigating particle acceleration utilizing relativistic lasers. The extremely powerful laser we use, e.g. ATLAS 300 in the new Laboratory for Extreme Photonics in Garching, can greatly exceed the Coulomb field binding electrons to nuclei and turn the matter into plasma when focussed. The novel particle beams generated during the interaction between the ultra-intense lasers and plasmas can be used in extensive applications such as medical physics and elsewhere.

### Particle Beam Diagnostics

In order to further understand the acceleration processes and pursue new development of new technologies for future applications, novel detectors for characterizing of laser accelerated particle bunches are essential. Currently our group has developed a unique, compact online diagnostic system providing spatially and energy-resolved particle measurements.



We are looking for motivated and talented students for a **master thesis** in our group working on ‚Novel online diagnostics for laser plasma interaction‘.

In the framework of this thesis you will be involved in further developments of our setup, data taking, data analysis and interpretation following the experimental projects. Additionally you will get the opportunity to participate in currently ongoing experiments at Garching.

Capacity for independent work as well as for teamwork are desired. A good understanding on laser plasma interaction and basic knowledge on Matlab and C++ programming is beneficial, but not mandatory.

If you are interested in working with us, please send your application incl. transcript of records to the email address below and/or a visit for a lab tour in Garching.

Contact:

Dr. Jianhui Bin, Tel: 289-54024

[jianhui.bin@physik.uni-muenchen.de](mailto:jianhui.bin@physik.uni-muenchen.de)

Dr. George Dedes, Tel: 289-14022

[g.dedes@physik.uni-muenchen.de](mailto:g.dedes@physik.uni-muenchen.de)

Prof. Dr. Jörg Schreiber, Tel: 289-54025

[oes@rzg.mpg.de](mailto:oes@rzg.mpg.de)