

Universität Bern
Institut für Angewandte Physik
Sidlerstrasse 5
3012 Bern, Schweiz

Telefon:+41 (0)31 631 89 11
E-Mail: iapemail@iap.unibe.ch
www.iap.unibe.ch



b
**UNIVERSITÄT
BERN**

Seminar über Ultrafast Science and Technology

Referent/in: Benedikt Hermann, Institut für Angewandte Physik, Universität Bern/PSI

Titel: Accelerator on a Chip International Program (ACHIP) – Experiments at SwissFEL

In classical radio-frequency particle accelerators, gradients are ultimately limited by the brake-down effect inside the cavity. At optical frequencies dielectric materials (e.g. fused silica, SiO₂) can sustain surface electric fields 1-2 orders of magnitude higher than metals. A dielectric laser accelerator (DLA) is a periodic microstructure excited by an external laser or by the field of a short electron bunch (driver). This talk covers the concepts of DLAs, recent progress of the ACHIP collaboration and in particular the experimental chamber at SwissFEL. The commissioning progress, a novel electron beam characterization method for sub-micrometer beam sizes and first experimental results of a dielectric wake field structure are presented.

Zeit: Do, 20.02.2020 11:15 Uhr

Ort: **Hörsaal B116**, Gebäude Exakte Wissenschaften, Sidlerstrasse 5, Bern, Schweiz