Karlsruhe Institute of Technology

Beam Diagnostics for Colliders

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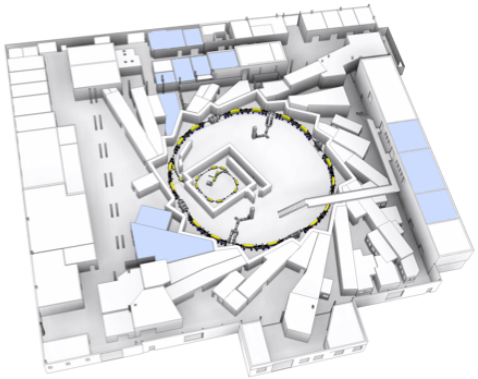
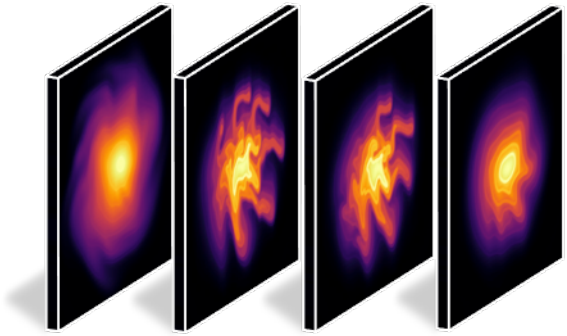
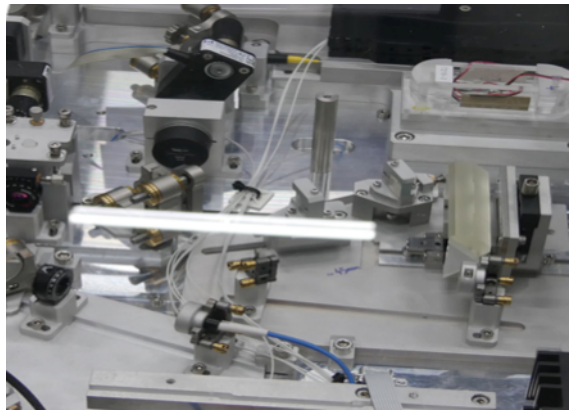
Institute for Beam Physics and Technology (IBPT)



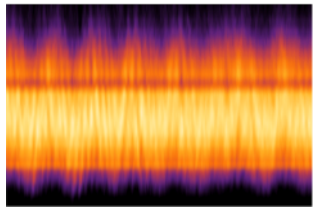




Beam Diagnostics for Colliders

- Overall Aim:
  - to understand the behavior of colliding particle beams & to develop novel algorithms to control them

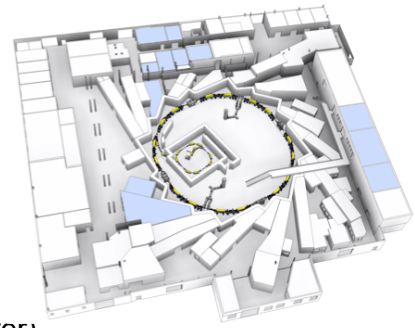
- Background:
  - utilizes KIT's long tradition in the development of advanced diagnostics
  - provides knowledge for colliding beams according to CERN needs



- Objective:
  - innovative conception & test of novel designs for advanced beam diagnostics to measure the longitudinal beam profile:
    bunch-by-bunch & turn-by-turn & extremely low vertical emittance

- Vision:
  - explore routes for significant increase in availability and energy efficiency with respect to other lepton particle colliders

- Partners: CERN, KIT LAS, KIT IAM, KIT IBPT (access to KARA and FLUTE)
- Resources
  - 1 FTE 18 months (postdoc)
  - 1 FTE 36 months (PhD student)
  - travel expenses: 20k€
  - invest: 40k€



- Contact: KIT LAS (Dr. Gudrun Niehues, Prof. Dr. Anke-Susanne Müller), KIT IAM (Prof. Theo Scherer)