

**Discussion-Session**  
**Session 3: Wednesday (11:15–13:00 Hrs)**

**Beam Synchronous Timing Systems**

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For many beam diagnostics purposes beam synchronous timing systems are needed in addition to the timing systems supplied by the control systems of the different accelerators. The demands and techniques of different accelerator facilities will be discussed along the following aspects:

- Bunch and macro pulse synchronous timing systems
- Solutions for different time scales from ps to ms
- Coupling to the RF and control systems of the different accelerators
- Electronics for the beam synchronous timing systems:
  - parameters,
  - techniques,
  - controlling.
- Use of industrial products for bunch synchronous timing systems, e.g. function generators
- Distribution of the timing signals:
  - electronically via cables,
  - optically via fibres or
  - wireless
- Coupling to and use of timing standards:
  - IRIG-B,
  - GPS,
  - ...

The participants should present and describe solutions from their facilities with some transparencies as a starting point for the discussion.