Advanced Accelerator Concepts Workshop
June 23-28, 2002
Mandalay Beach Resort, CA

Working Group: Beam Generation/Monitoring & Control
Leader: Xijie Wang (BNL)

The focus of Beam Generation/Monitoring & Control Group is on the generation of high-brightness electron and proton beams required for future light sources, colliders and laser or high-frequency RF (> 30 GHz) accelerators. We will also discuss various techniques for monitoring, controlling and preserving such high-brightness charge particle beams.

1. Electron Beam Source based on the RF and DC guns: High-charge RF gun, DC pulse gun, Flat Beam Generation, Polarized RF gun, CW Photoinjector for energy recovery linac, etc.
2. Energy Recovery Linac.
3. Femto-seconds electron beam bunch length measurement techniques: Coherent radiation based technique, RF kicker cavity, etc.
4. Laser based beam instrumentation: Optical Electrical effect based beam diagnostics, Laser wire, etc.
5. Exotic beam generation: Atto-second beam production, etc.
6. Plasma based electron and proton beam sources (joint session with plasma accelerator group?)
7. Bunch compression and CSR.
8. Nano-beam instrumentation: cavity BPM, Shintake monitor, etc.
10. Remote accelerator operation, beam based control and feedback.
11. 6-D beam characterization.

The Proposed invited speakers are:

2. David Douglas of Jefferson Lab, Challenging Issues of ERL.
3. M. Ross of SLAC, Nano-Beam Instrumentation
4. M. Uesaka of Tokyo University, Femto-seconds bunchlength and Timing jitter measurement techniques.
5. W. Graves of BNL, Bunch Compressor and CSR.
7. Rainer Pitthan of SLAC, High-brightness Plasma Electron Sources.

I am hoping to have a join session on Plasma proton, ion and electron sources with Tony Ting's group.