Transverse Beam Matching and Orbit Corrections at J-PARC LINAC (MOP078)

H. Sako, A. Ueno, T. Ohkawa, Y. Kondo, T. Morishita; JAEA

M. Ikegami, H. Akikawa; KEK

- Transverse matching and orbit corrections with H⁻ beams at 5~30mA in 181MeV LINAC
  - Transverse matching corrections for profiles measured by WS’s with QM’s
    • Emittance and Twiss parameters measured
  - Corrections for beam orbits measured by BPM’s with STM’s

Model-based correction methods and procedures established
Highlights

• Transverse matching
  Beam envelopes at SDTL
  Mismatch factor < 5%

• Orbit corrections
  Orbit positions at SDTL
  Orbit displacements < 1mm
Highlights

Emittance/Twiss parameters measured and controlled by QM’s

Beam envelopes at L3BT

Injection point to RCS (Rapid Cycle Synchrotron)

Horizontal phase ellipse

Vertical phase ellipse

Phase ellipse of RCS