

# Optics Measurements, Corrections and Modeling for High-Performance Storage Rings



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## Beam based gain calibration (CANCELLED)

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Good quality beams, for example, extremely low emittance beams or beams with very low emittance ratio, are required in present-day accelerators, in which quite sometimes strong nonlinear optics elements are needed. Since, in such cases, the optics is dependent strongly on beam orbit deviation from the designed orbit, the orbit stabilization is one of essential issues to realize good quality beams. It should be pointed out that a BPM usually detects beam position relative to the electric monitor center, not the geometrical center, and that the electric center likely drifts due to unexpected variation of imbalance, or gains, among the output signals from its electrodes. The imbalance is often introduced by drifts on transfer impedance through cables, connectors, attenuators and switches. This talk proposes a method to calibrate the imbalance by beam measurements and to detect the beam position relative to the stable geometrical monitor center. The talk also covers the demonstration of the method in the KEKB.

**Presenter:** SATOH, Kotaro (KEK)

**Session Classification:** Beam diagnostics