Beam Position Monitors and Orbit Feedback for Low Emittance Rings

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The beam size reduction in the low emittance rings associated to the miniaturization of the vacuum chamber conduct to tight requirements for the beam position monitoring system. The long-term stability is particularly challenging. Ongoing mechanical and electronic designs envisioned to meet those specifications are presented.

In addition, the performances of the future orbit feedback system will also be improved by (in particular) increasing the closed loop bandwidth conducting to a larger efficiency range. Consequences on the architecture of the system and the involved electronics latencies are also discussed.