

# Experimental Verification of Transverse Electric Mode Controlled Vacuum Chamber of PLS-II Storage Ring

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It is significant issue to control the unwanted transverse electric (TE) modes in the vacuum chamber for preventing the position reading noise from the beam position monitor (BPM) of storage ring. We introduce shunt structure to control the frequency distribution of TE resonance modes excited in the vacuum chambers of the Pohang Light Source II (PLS-II). The design of shunt structure is performed using the full three dimensional finite-difference time-domain (FDTD) simulation. It is verified that the symptom of the BPM noise is not observed up to the beam current of 190 mA in the commissioning of PLS-II.

**Keywords:** PLS-II, Transverse electric mode, Vacuum chamber