

VT-P005

## Wake Field Effect from the Undulator Vacuum Chamber in PAL-XFEL

**박용운**

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Wake field effect on the electron beam from the undulator chamber in PAL-XFEL is analyzed. The wake field takeover some energy from the electron beam which will increase the energy spread of the electron beam. This will cause the degradation of the radiation power in PAL-XFEL. To decrease the effect, the surface of the undulator vacuum chamber should be fabricated with 200 nm surface roughness and 5 nm oxidation layer. In this presentation, the numerical calculation of the wake will be shown. Simulation results of the radiation generation in PAL-XFEL also will be presented.

**Keywords:** Wakefield, Surface roughness, Oxydation layer

VT-P006

## Impedance Calculation for Vacuum Components in Pohang Light Source Storage Ring

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Broadband impedances for the 3-GeV pohang light source-II (PLS-II) storage ring have been numerically estimated using a full three dimensional finite-difference time-domain code, CST particle studio. The total broadband impedance of all the vacuum components was estimated as 0.256 ohm, which is a small fraction of the total machine impedance budget.

**Keywords:** Impedance, Vacuum component, Storage ring