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RF System Upgrade for the New Extremely Brilliant Light Source at the ESRF, Operation Experience with Klystrons and Solid State Amplifiers

Wednesday, 22 June 2016 10:00 (30 minutes)

Since April 2012, the ESRF booster synchrotron is powered with four 150 kW - 352.2 MHz solid state amplifiers (SSA). In 2013 another three 150 kW SSAs were taken into operation on the 6 GeV storage ring, powering new strongly HOM damped cavities, which are run in parallel with the existing five-cell cavities fed from 1.1 MW klystron transmitters. Operation experience and RF system developments partly linked with the recent implementation of top up operation will be reported.

A new ultra low emittance storage ring is under construction at the ESRF and will be installed in the existing tunnel in 2019. All the five-cell cavities will be replaced with single cell HOM damped cavities. Four of them will be powered with SSAs and ten with an existing klystron transmitter.

Summary

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