

Status upgrade on the BESSY-II LLRF modernization and future plans

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BESSY-II synchrotron light source at Helmholtz Zentrum Berlin, has been in operation for almost 25 years and it is not expected that its successor, BESSY-III will be ready for user operation until the second half of the next decade. This fact makes necessary several modernization measures to keep BESSY-II competitive until then. One of these measures is the replacement of the old analogue LLRF control system with modern, state-of-the-art mTCA.4 crates running the so-called “single cavity control”. In order to test the new systems, a test stand has been set up, comprising a HOM-damped BESSY cavity, a 80kW SSA, a MPS PLC, a motor driver and a mTCA.4 chassis. Provided a successful operation of the teststand, the system will be stepwise deployed to drive the booster and storage ring cavities. It is also planned to introduce 3rd harmonic cavities operating at 1.5GHz in the following years, so the hardware adaptations are currently being commissioned.

Keyword

bessy-ii, modernization, mTCA.4

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