



Contribution ID: 8

Type: **Talk**

Status and upgrade plan of SPring-8 RF system

Tuesday 10 September 2024 08:15 (25 minutes)

SPring-8 is a 3rd generation synchrotron facility. The electron beam energy and current are 8 GeV and 100 mA. There are four RF stations to generate 16 MV total accelerating voltage at a frequency of 508.58 MHz. Each station has eight single-cell cavities driven by one 1MW-CW-klystron. About 27 years have passed since the start of the user operation was in 1997, an upgrade project, SPring-8-II, is being actively pursued by 2028. By introducing a multi-bend achromat lattice and combined function magnets, the beam emittance will be reduced from 2.5 nmrad to around 100 pmrad with a beam energy of 6 GeV and a current of 200 mA. Required accelerating voltage is 8 MV. So the number of the cavity will be reduced to half, keeping the current klystrons and low-level RF. In this presentation, operational status and upgrade plan of the RF system will be shown.

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Session Classification: Session 3a

Track Classification: Project reports, new projects