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Powering of RF systems –Power converters and infrastructure

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The RF systems of the FCCee are expected to be the primary consumers of power and energy. Moreover, the staged approach, ranging from Z to TTbar, necessitates modifications in the RF production method involving klystrons and solid-state devices, posing challenges for the powering infrastructure.

This presentation will outline the RF powering requirements for each stage, including power levels, voltage levels, and system locations. Solutions will be discussed, including the location and general concepts of power converters, as well as power distribution aspects.

Specifically, a centralized and modular power converter solution for high voltage powering of klystrons will be presented, with smaller components installed in the klystron gallery to minimize overall capital expenditure (CAPEX) costs.

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