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Main rings impedance budget

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A comprehensive impedance model is essential to ensure beam stability and optimize performance in the FCC-ee main rings. In this talk, we present the current status of the impedance budget, developed as part of the ongoing FCC-ee design studies. The model includes contributions from a wide range of components—including beam pipe, collimators, bellows, tapers, RF cavities and beam position monitors—and accounts for both resistive wall and geometric effects. We also address the specific challenges posed by the unique characteristics of FCC-ee, together with recent advancements in simulation tools and methodologies. Finally, we discuss the criteria adopted to define and structure the impedance budget.

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