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Studies of FCC-ee single bunch instabilities with an updated impedance model

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The ongoing FCC-ee collider design aims at optimizing beam parameters and developing the different accelerators systems. For this reason, the coupling impedance modeling is in evolution following the design of the collider vacuum chamber and hardware components. Respectively, studies of collective effects and instabilities are continuously updated and refined. In this paper we describe the current FCC-ee impedance model and discuss results of the single bunch instabilities studies. Possible mitigation techniques for these instabilities are also considered.

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Footnotes

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