



Contribution ID: 12

Type: **not specified**

## Electron cloud simulations for arc quadrupoles

*Wednesday 30 June 2021 12:12 (18 minutes)*

The electron cloud is one of the critical issues to be addressed due to its capability to affect the FCC-ee accelerator performance and degrade beam quality, in particular, for the arcs of the machine. In this work, we report the first part of a series of studies on electron cloud build-up for the arc quadrupole sections. Variations mainly on beam energies, beam pipe radii, and secondary electron emission yields were explored. In addition, we found a significant reduction in electron central density when winglets are implemented as part of the beam pipe chamber.

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**Session Classification:** FCC-ee accelerators

**Track Classification:** FCCIS EU H2020 project: FCCIS WP2 (FCC-ee design)