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FCC-ee arc half-cell: preliminary design & integration studies, with ideas for a mock-up

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During 2022, a dedicated study was undertaken at CERN, together with FCC Feasibility Study collaborators, aimed at proposing a robust configuration for the FCC-ee arc half cell. The proposed configuration takes into account integration aspects of the elements in the arc cross section, both for the booster and the collider, as well as aspects related to powering, cooling and ventilation, supporting and alignment, optics, instrumentation, handling and installation. The interfaces between the arc elements and the straight sections have also been analyzed. This paper summarizes the main conclusions of the assessment, and reports the preliminary engineering analyses performed to design the supporting system of the booster and of the collider. A proposal for a possible mock-up of the arc half-cell, to be built at CERN in the next years, is also presented.

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Footnotes

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