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## Electron cloud build-up studies for DAΦNE collider and FCCee damping ring

*Sunday, 19 May 2024 16:00 (2 hours)*

DAΦNE is a medium energy electron-positron collider operating in the National Laboratory of INFN at Frascati, Italy. The accelerator complex consists of two rings with an approximate circumference of 97 m. High-intensity electron and positron beams circulate and collide with the center of mass energy of around 1.02 GeV. The FCCee is an ongoing lepton collider project and its current injector design includes a damping ring for emittance cooling of positron beams. The electron cloud is one of the most important collective effects and can represent a bottleneck for the performances of accelerators storing particles with positive charge. Several undesired effects such as transverse instabilities, beam losses, emittance growth, energy deposition, vacuum degradation may arise due to interaction of the circulating beam with the e-cloud. The aim of this presentation is to provide e-cloud buildup simulations for the DAΦNE positron ring and the Damping Ring of FCCee. This study will also include experimental studies concerning the instabilities induced by the e-cloud exploiting the opportunity offered by the positron beam at DAΦNE.

### Footnotes

### Funding Agency

### Paper preparation format

LaTeX

### Region represented

Asia

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