**FUTURE
CIRCULAR
COLLIDER**

Contribution ID: **262**   Type: **Oral presention (by invitation only)**

Digital twins: current activities in Mechanical and Materials Engineering group at CERN and perspectives for FCC-ee

Thursday, 8 June 2023 14:45 (15 minutes)

In the frame of FCC-ee, where the radiation level and the large scale of the facility impose remote activities and cost optimization, the deployment of dynamic models of physical mechanical systems has great potential. Ability to provide real-time feedback on the system's state and to perform predictive modelling can contribute -among others- to diagnostic optimization, reduction of number of sensors and to effective predictive maintenance.

This contribution will present the ongoing effort by Mechanical and Materials Engineering group at CERN, to develop digital twins dedicated to mechanical components for particle accelerators. The current state of the project and initial trials will be discussed.

Primary author: BAUDIN, Lucie (CERN)

Co-authors: PEREZ FONTENLA, Ana Teresa (CERN); SMAKULSKA, Dorota (CERN); PAPAZOGLOU, Giannis (CERN); GARLASCHE, Marco (CERN); SACRISTAN DE FRUTOS, Oscar (CERN); ATIEH, Said (CERN)

Presenter: BAUDIN, Lucie (CERN)

Session Classification: Technology R&D

Track Classification: FCC-ee technologies R&D