Contribution ID: **401** Type: **Oral presention (by invitation only)**

Beam-beam code progress

The understanding of beam-beam effects, drivers of the FCC-ee parameter design in several aspects, require sophisticated and high-performance numerical simulations. The self-consistent study of the interplay of several nonlinear dynamical phenomena resulting from collisions in the machine is key to accurately assess its potential performance. Although current simulation frameworks can address specific aspects of the dynamics separately, they are difficult to interface with each other for more complex studies. To address this challenge, xsuite, a new general purpose software framework for beam dynamics simulations, is currently under development. We discuss first results using the beam-beam interaction model in this new toolkit, including benchmarks and the combination with an element by element lattice model.

Author: KICSINY, Peter (EPFL)

Co-authors: SCHULTE, Daniel (CERN); IADAROLA, Giovanni (CERN); SEIDEL, Mike; Dr PIELONI, Tatiana (EPFL); BUFFAT, Xavier (CERN)

Presenter: KICSINY, Peter (EPFL)

Session Classification: Technology R&D

Track Classification: SRF Programme