Contribution ID: **841** Contribution code: **MOPL062** Type: **Poster Presentation**

Bhabha scattering model for multi-turn tracking simulations at the FCC-ee

Monday, 8 May 2023 16:30 (2 hours)

The measurement of Bhabha scattered leptons enables a direct estimate of luminosity in lepton colliders. Currently existing Monte Carlo event generators for this process are optimized for high precision detector background simulations. From a beam dynamics point of view, emitted photons will modify the bunch distribution and lead to beam losses
due to the limited momentum acceptance of the machine. Hence the interest in building an event generator which is optimized for beam dynamics studies requiring efficient multi-turn tracking simulations. We discuss the implementation of such a model in the newly developed Xsuite simulation framework as well as its benchmarking and performance.

Funding Agency

Footnotes

I have read and accept the Privacy Policy Statement

Yes

Primary author: KICSINY, Peter (European Organization for Nuclear Research)

Co-authors: BUFFAT, Xavier (European Organization for Nuclear Research); IADAROLA, Giovanni (European Organization for Nuclear Research); PIELONI, Tatiana (European Organization for Nuclear Research); SCHULTE, Daniel (European Organization for Nuclear Research); SEIDEL, Mike (Paul Scherrer Institut)

Presenter: KICSINY, Peter (European Organization for Nuclear Research)

Session Classification: Monday Poster Session

Track Classification: MC1: Colliders and other Particle Physics Accelerators: MC1.A02: Lepton Circular Colliders