Contribution ID: **195** Type: **Oral**

# A new beam-beam effect in collisions with crossing angle

*Wednesday, 13 April 2016 09:30 (20 minutes)*

During beam collisions with a crossing angle particles get horizontal deflection with opposite direction in the head and the tail of the bunch (like does crab cavity but more nonlinear). Due to the transverse kick bunch slices (and particles) undergo betatron oscillation in the ring and come again to the IP with additional horizontal spread which (for FCC-ee) may exceed the natural beam size. This effect causes several problems which need careful analyses.

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**Session Classification:** FCC-ee Beam-Beam & Luminosity

**Track Classification:** Accelerators