Contribution ID: **1001** Contribution code: **THPS011**　　　　　Type: **Poster Presentation**

Operational challenges of the SuperKEKB iBump feedback system

Thursday 5 June 2025 15:30 (2 hours)

To maintain optimal beam collision conditions and luminosity performance, SuperKEKB requires a fast orbit feedback dedicated to correcting offsets at the interaction point (IP). The 'iBump' feedback system calculates IP beam offset from Beam Position Monitor (BPM) measurements before and after collision and corrects by creating closed orbit bumps in the High Energy Ring (HER). This system has demonstrated robustness at stabilising IP offsets during operation. In this paper, we discuss operational aspects of the system and ongoing challenges, with a focus on the identification of vertical offset as the correction target of the iBump system. Dedicated studies on the current dependence of this feedback target as well as historical data are analysed.

Footnotes

Paper preparation format

LaTeX

Region represented

Europe

Funding Agency

Author: SALVESEN, John (European Organization for Nuclear Research)

Co-authors: UEKI, Ryuichi (High Energy Accelerator Research Organization); FUNAKOSHI, Yoshihiro (High Energy Accelerator Research Organization); MASUZAWA, Mika (High Energy Accelerator Research Organization); ZIMMERMANN, Frank (European Organization for Nuclear Research); BURROWS, Philip (John Adams Institute)

Presenter: SALVESEN, John (European Organization for Nuclear Research)

Session Classification: Thursday Poster Session

Track Classification: MC6: Beam Instrumentation and Controls,Feedback and Operational Aspects: MC6.T05 Beam Feedback Systems