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Mechanical engineering design of the D-II injection systems

Wednesday 17 September 2025 17:00 (1 hour)

This work presents the mechanical engineering design of the Diamond-II injector, which includes a new low-emittance booster with combined function magnets, modifications to the existing transfer lines and a novel storage ring injection scheme. The latter features two alternative schemes: the first scheme is based on a traditional four-kicker closed bump paired with a novel in-vacuum thin septum, combined with an in-air permanent magnet thick septum. This arrangement will be used for commissioning and initial fill of the ring; the second scheme, used for top-up during user operation, aims to deliver transparent injection and it is based on innovative strip line kickers.

Footnotes

Funding Agency

Author: TIZZANO, Walter (Diamond Light Source)

Co-authors: Mr SHAHVEH, Abolfazl (Diamond Light Source); Mr BAILEY, Chris (Diamond Light Source); Mr GRENVILLE, David (Diamond Light Source); MARTIN, Ian (Diamond Light Source); COX, Matthew (Diamond Light Source); Mr AHAMAD, Syed Rishan (Diamond Light Source); LOCKWOOD, Toby (Diamond Light Source); Mr ZHILTSOV, Vitalii (Diamond Light Source)

Presenter: TIZZANO, Walter (Diamond Light Source)

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