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Introduction of RF phase feedback in KEK e-/e+ LINAC

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The KEK e-/e+ LINAC delivers the beams to four storage rings with the top-up injections by switching the beam mode in 50 Hz repetition rate. The beam charge, energy, and number of bunches (one or two) are different for each ring. Therefore, the RF timing and phase are adjusted to each beam mode independently. To stabilize the RF phase drifts caused by the klystron high voltage, the cooling water and accelerating structure temperature, the RF phase feedback was introduced. The correction phase quantity is obtained by feedback calculation using non-injection mode without beam acceleration, and the value is added to set phase value in each mode. As a result, the RF phase in each beam mode has been stabilized.

Footnotes

Paper preparation format

Word

Region represented

Asia

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