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Laser modulator for SSMB used as a diagnostic tool

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At the Metrology Light Source in Berlin, the concept of Steady-state microbunching (SSMB) is evaluated in a proof-of-principle (PoP) experiment. SSMB has been proposed to deliver kilowatt level average power EUV radiation from an electron storage ring. In the PoP experiment, an energy modulation is impressed onto the electron beam using an infrared laser pulse co-propagating inside an undulator. We show that the beam energy can be measured absolutely by detuning the undulator gap from optimum resonance and observing the intensity of the resulting coherent synchrotron radiation.

Footnotes

Funding Agency

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Yes

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