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Laser Control and Collimation of Electron Beams

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Laser-driven Compton backscattering (CBS) has been proposed as method for controlling the intensity of colliding bunches in the FCC-ee so as to avoid the flip-flop instability. Laser-based collimation has also been proposed as an indestructible collimator for high-intensity electron beams, which could significantly reduce the length of a Linear Collider Beam Delivery System. We have initiated a laboratory-based test of these concepts with the E344 experiment at FACET-II. We describe the proposed experiment at FACET-II.

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