

Feedback On Nanosecond Timescales: bunch-by-bunch feedback systems for making the beams collide at Linear Colliders

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I will motivate the need for fast feedback systems located near the interaction point at a future linear collider for bringing the electron and positron beams into collision and maximising the luminosity. I will describe the feedback system hardware in terms of the beam position monitors, signal processing electronics, feedback board, amplifier and kicker. I will show results from the prototype systems developed for ILC and CLIC and tested with beam at the Accelerator Test Facility at KEK. I will describe the layout of the real systems in the ILC and CLIC interaction regions and illustrate their potential for luminosity recovery.