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Longitudinal impedance of nonlinear kicker for Hefei advanced light facility

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The Hefei Advanced Light Facility (HALF) is a vacuum ultraviolet (VUV) and X-ray diffraction-limited storage ring light source. It has a relatively large dynamic aperture, and an injection scheme with a nonlinear kicker (NLK) was considered for the HALF. This kind of magnet was designed with a small gap shield in the central area to gain a flat magnetic field. A complete prototype has also been produced and the measurement of magnetic field was done. In this paper, an improved structure of the nonlinear kicker is presented based on the previous one. Simulation of the longitudinal impedance has also been done and will be given later.

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Footnotes

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