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# Transverse instability in HALHF plasma stages

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We present first results for a parameter study including transverse instability in the acceleration stages of HALHF, a novel electron positron collider concept combining plasma wakefield acceleration and mature RF acceleration to reach centre of mass energies of 250 GeV. This study is a preliminary extension of the previous studies that indicated promising performance, by including transverse instability. Transverse instability was simulated using start-to-end simulations, where PIC simulations were combined with a simplified model to efficiently modell transverse instability in the plasma acceleration stages and electron beam transport in interstages.

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