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Inter-stage coupling of plasma accelerators

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Plasma accelerators exhibit O(10) GeV-level electric fields, promising a compact linear accelerator design. Reaching the collider-relevant TeV-level beam energy necessitates the use of multiple consecutive stages to replenish the wake-driving beam. The stage-to-stage coupling is thus an elementary design aspect of plasma accelerator development, which demands for excellent charge coupling and focus control while being compact. In this contribution, we discuss various designs
for inter-stage couplings from first principle, with a focus on the associated length and chromaticity acceptance.

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Working group

WG7 : Linear Colliders

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