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Laser-plasma-based linear collider using hollow plasma channels

A linear electron–positron collider based on laser-plasma accelerators using hollow plasma channels is considered. Laser propagation and energy depletion in the hollow channel is discussed, as well as the overall efficiency of the laser-plasma accelerator. Example parameters are presented for a 1-TeV and 3-TeV center-of-mass collider based on laser-plasma accelerators.

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