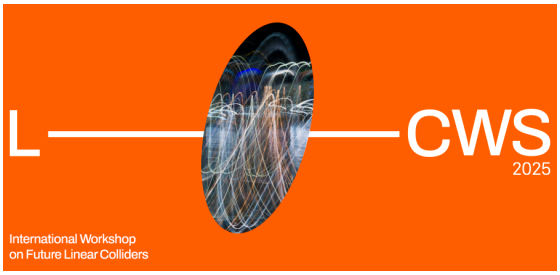

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Impact of Higher-Order Optics on Beam Size and Luminosity in the CLIC Final Focus System

Thursday 23 October 2025 11:50 (20 minutes)

We hypothesize that third- and higher-order treatment of particle optics have a minor impact on the beam size at the interaction point (IP)
and on the resulting luminosity, compared to linear and second-order contributions.
To test this, we are conducting a comprehensive simulation campaign using PLACET, GuineaPig, and MAP-CLASS to quantify the correlation
between IP beam size and luminosity across small variations in the CLIC Final Focus System (FFS) optics.
The results are expected to inform and guide future optimization of the FFS design.

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