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Experimental Progress of Passive Plasma Lens at FACET-II

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The thin, underdense, passive plasma lens promises compact, strong, tunable, axisymmetric focusing of intense electron beams. It is ideally suited for matching beams into and out of plasma wakefield accelerator stages, and for reducing divergence of high-brightness plasma-injected beams as they exit the plasma source. The plasma lens comprises a sub-millimeter scale, laser-ionized plasma in the outflow of a supersonic gas jet. Preliminary results from recent experiments at FACET-II using a laser-ionized passive plasma lens will be presented showing strong focusing of a 10 GeV electron beam.

Working group

WG3 : Beam-driven plasma acceleration

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