

Gas jet design for laser plasma wakefield acceleration

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Gas jets are an attractive technology for high repetition rate LWFA as they are less prone to damage and therefore last longer than other options. However, it has proved difficult to tailor the gas density profile with jets as for capillaries and cells which has restricted their utility. We report on preliminary experimental measurements of a novel gas jet design suitable for density downramp injection without auxiliary laser beams or the insertion of additional material structures into the gas flow.

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