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Update on plasma stability measurements of the prototype plasma lens for positron matching

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The quest for novel technologies in the ever-evolving landscape of scientific exploration has led to the investigation of plasma lensing as a potential solution for optical matching devices at positron sources. This research becomes increasingly significant as the need for higher data output demands innovative concepts to increase positron yield and therefore luminosity. Our initial experiments revealed instabilities within the gas discharge. This talk will focus on the analysis of high temporal resolution measurements and the operation state of the prototype lens. Understanding and overcoming these challenges is pivotal for a future application of plasma lenses as an integral part of high performance positron sources.

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Primary author: HAMANN, Niclas (Uni Hamburg/DESY Hamburg)

Co-authors: LOISCH, Gregor (DESY); MOORTGAT-PICK, Gudrid; JONES, Harry (DESY Hamburg); OSTERHOFF, Jens (LBNL); LUDWIG, Kai (DESY Hamburg); FORMELA, Manuel

Presenter: HAMANN, Niclas (Uni Hamburg/DESY Hamburg)

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