

Abstract Submitted  
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**Spectroscopic measurement of the electric field in a helium plasma jet** MARLOUS HOFMANS, ANA SOBOTA, Eindhoven University of Technology — The electric field in a plasma jet is measured spectroscopically utilizing the Stark-effect. A cold atmospheric pressure helium plasma jet is used, which operates at a  $\mu\text{s}$ -pulsed applied voltage of 6 kV, a frequency of 5 kHz and with a helium flow of 1.5 slm. Due to the electric field in the jet, the forbidden and allowed bands of the emission spectrum shift. This is called the Stark-effect. The spectrum of both the He I 492.2 nm line and the He I 447.1 nm line are obtained with an iCCD-camera coupled to a monochromator. From the peak-to-peak wavelength difference between the allowed and forbidden band, the electric field in the jet is calculated. The electric field is determined both inside and outside the capillary of the jet, up to 2 cm in the effluent of the jet. Furthermore, the electric field in the jet is determined, while a target is placed close to the end of the capillary. Grounded and non-grounded, conducting and insulating targets are used and placed at different distances.

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