

Abstract Submitted  
for the GEC13 Meeting of  
The American Physical Society

**The properties of isolated streamer discharges**<sup>1</sup> JANNIS TEUNISSEN, Centrum Wiskunde & Informatica, UTE EBERT, Eindhoven University of Technology — We aim to understand how the basic properties of positive streamer discharges, such as their radius or velocity, depend on the discharge conditions. We systematically explore these properties by doing many simulations under different discharge conditions. The electric field, gas mixture, initial discharge seed and the source of free electrons are varied. The simulations are performed with a fluid model, assuming cylindrical symmetry. To eliminate effects from boundaries, we use a free-space field solver. We compare our results with previous studies and with experimental observations.

<sup>1</sup>JT was supported by STW-project 10755.

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Date submitted: 14 Jun 2013

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