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Pulse tailoring in low-pressure radio-frequency pulsed discharges¹ MARK BOWDEN, ZIAD EL OTELL, NICHOLAS BRAITHWAITE, The Open University, UK — The aim of this study is investigate the effect of different pulse shapes on the properties of a low-pressure pulsed plasma. A set of differently shaped pulses were used to generate discharges in a low pressure radiofrequency discharge and measurements of electron density and optical emission spectra were used to characterise the discharge. The study was carried out in a capacitively coupled Gaseous Electronics Conference (GEC) reference reactor with gas pressure in the range of 6 – 70 Pa, radiofrequency power in the range of 1 – 100 W, and pulse duration in the range of 10 μ s – 100 ms. The effect of tailored pulses on the discharge properties was investigated, with special emphasis on the development of the electron energy distribution function during the ignition phase of each pulse cycle.

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