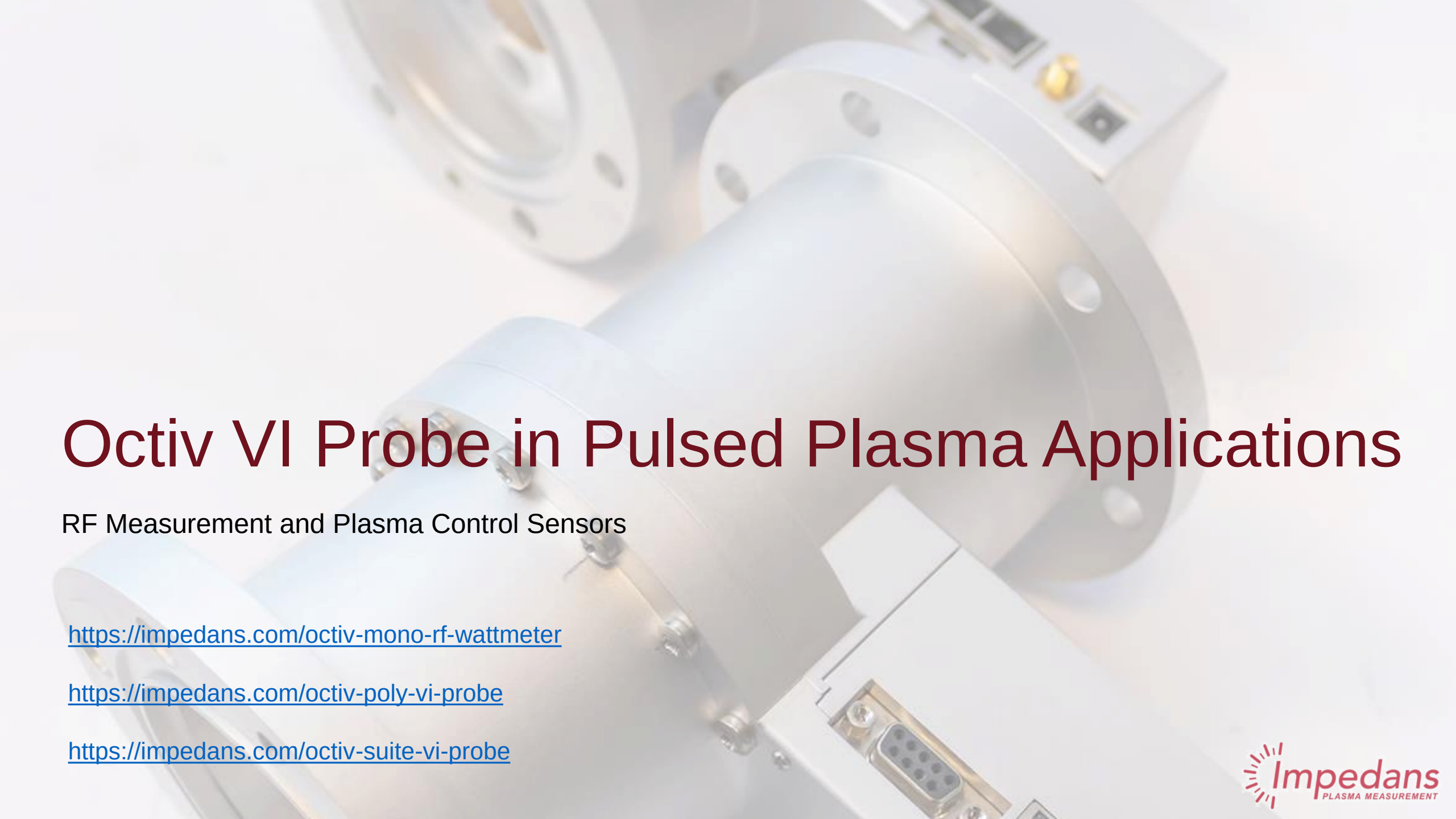


Octiv VI Probe in Pulsed Plasma Applications

RF Measurement and Plasma Control Sensors

https://impedans.com/octiv-mono-rf-wattmeter

https://impedans.com/octiv-poly-vi-probe

https://impedans.com/octiv-suite-vi-probe

Impedans
PLASMA MEASUREMENT

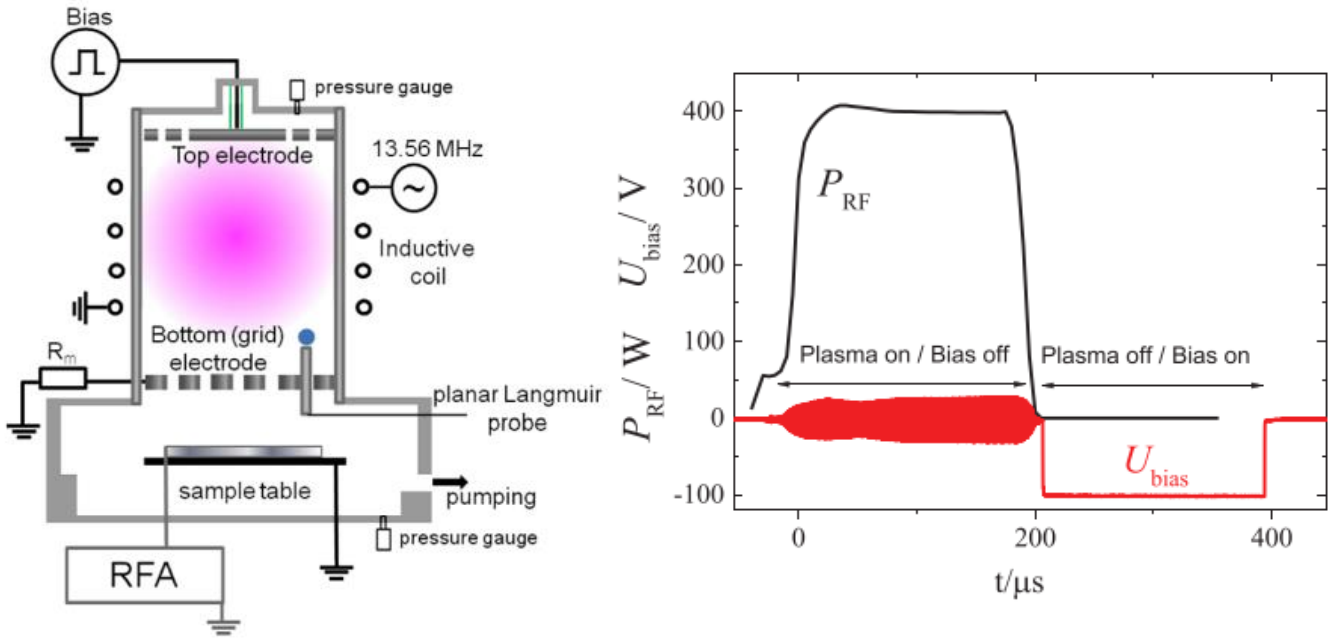
Controlled extraction of positive and negative ions from a pulsed high density SF_6 plasma

Extraction and neutralization of positive and negative ions from a pulsed electronegative inductively coupled plasma

DOI: http://dx.doi.org/10.1088/0963-0252/24/6/065008

In the present study, investigation of the extraction of positive and negative ions from a pulsed inductively coupled plasma (ICP) in SF_6 bounded by two independently biased electrodes (with one of the electrodes fitted with an extraction grid) is carried out.
Time resolved measurements of the transmitted RF power before the matcher were performed using OctIV probe, Impedans.

Some example data is shown to the right.



Experimental setup and time dependence of the transmitted RF power before the matcher (P_{RF}) and the bias voltage at the top electrode (U_{bias}) in an SF_6 pulsed ICP at 3.3 Pa.

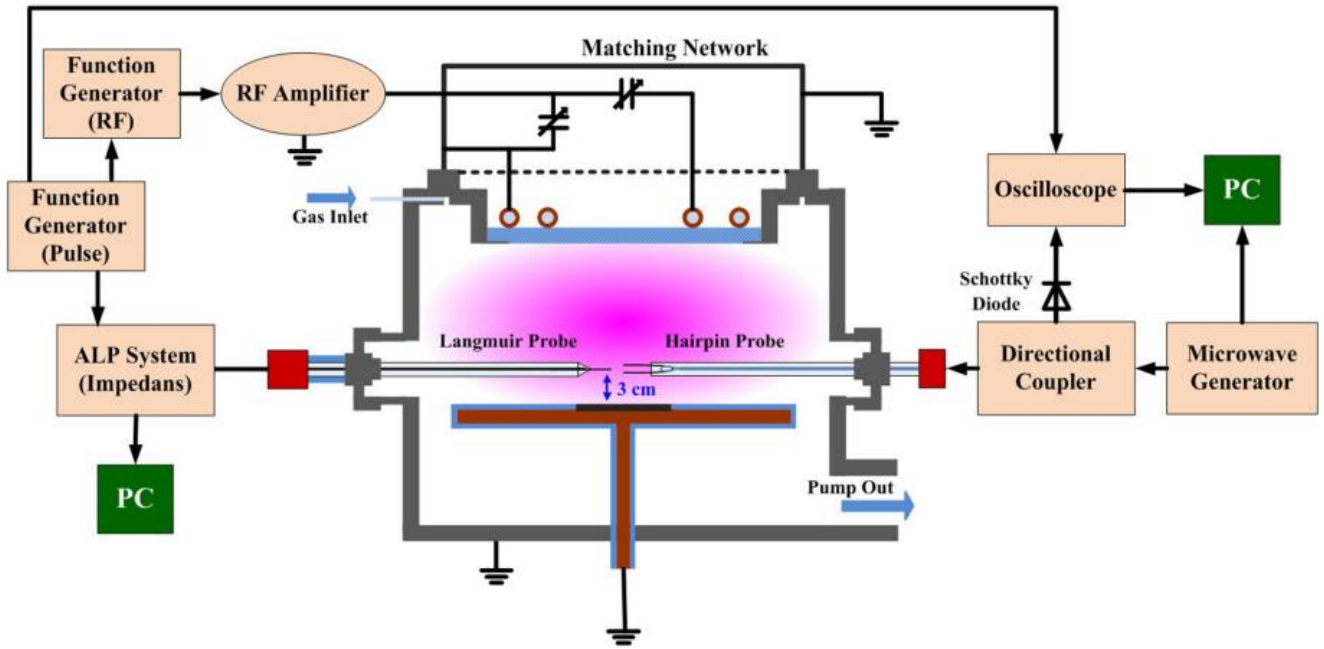
Temporal evolutions of input power in pulsed inductively coupled discharge

Complex transients of input power and electron density in pulsed inductively coupled discharges

DOI: https://doi.org/10.1063/1.5114661

In this work, time-dependent studies of pulsed inductively coupled Ar and Ar/CF_4 discharges are presented. The input power is measured by Octiv Suite VI probe, Impedans fixed between the power source and the matching network, for different powers and pressures, with a pulse frequency of 1 kHz and 50% duty cycle.

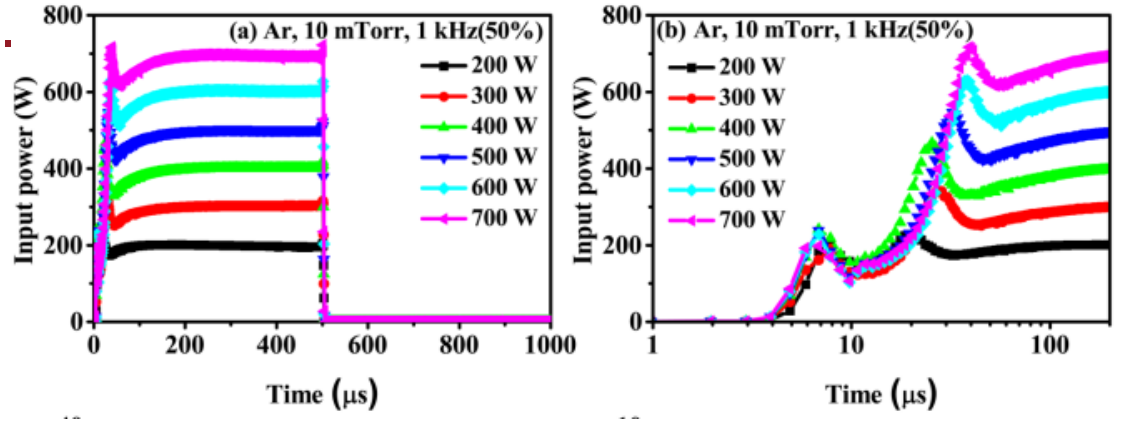
Some example data is shown in next slides.



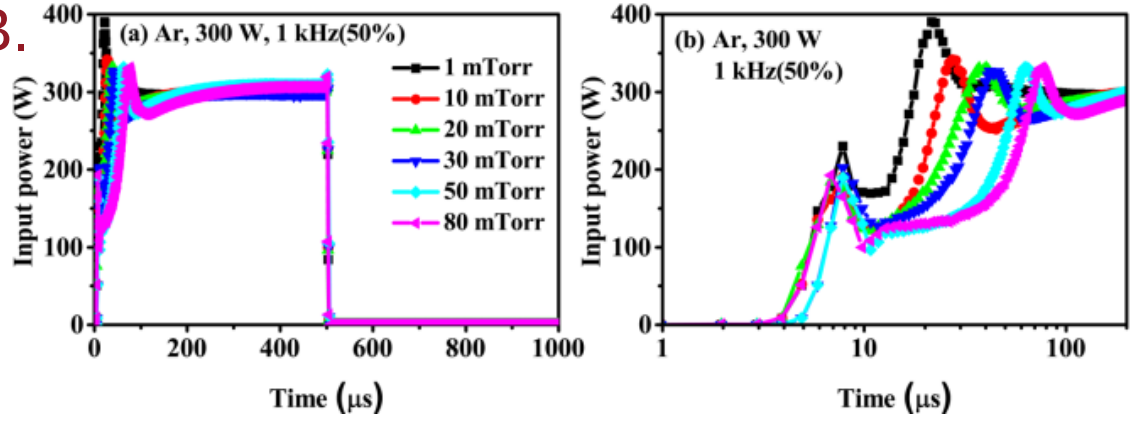
The schematic of the experimental setup.

Temporal evolutions of input power in pulsed inductively coupled discharge

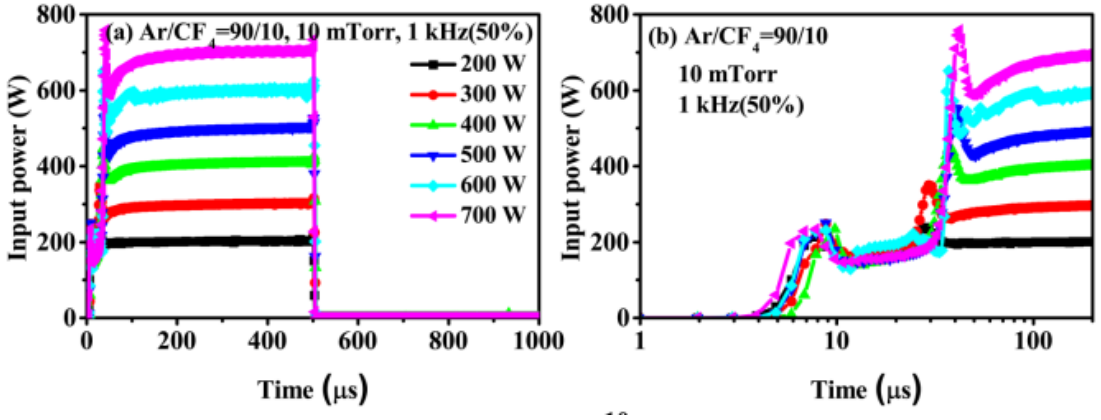
A.



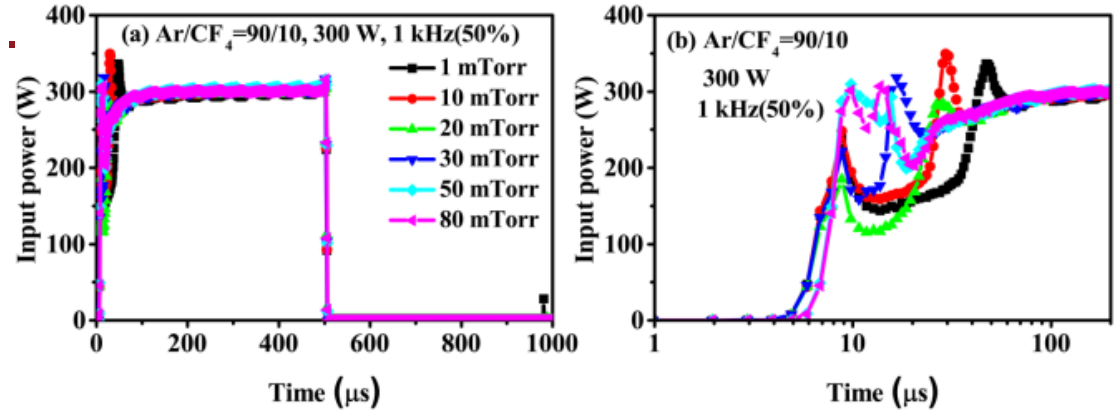
B.



C.



D.



Temporal evolutions of the input power for different powers, pressures in Ar and Ar/CF_4 discharges, with a pulse frequency of 1 kHz and 50% duty cycle. (a) the input power for the whole pulse period (b) the input power until 200 μs in the initial pulse stage.

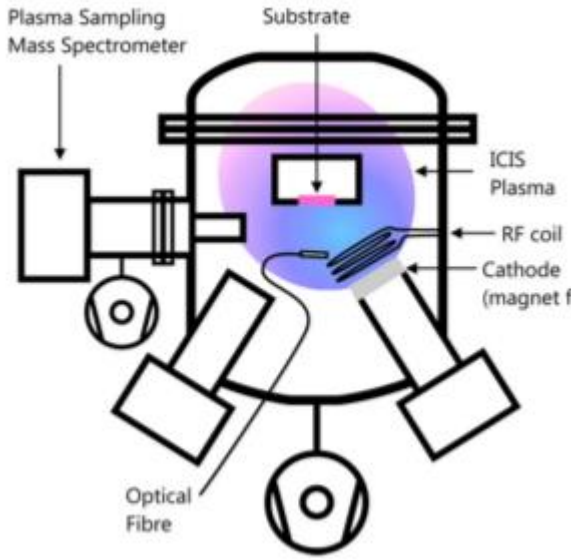
Simultaneous measurement of Current, Voltage, Impedance, Phase and Instantaneous power in an inductively coupled impulse sputtering

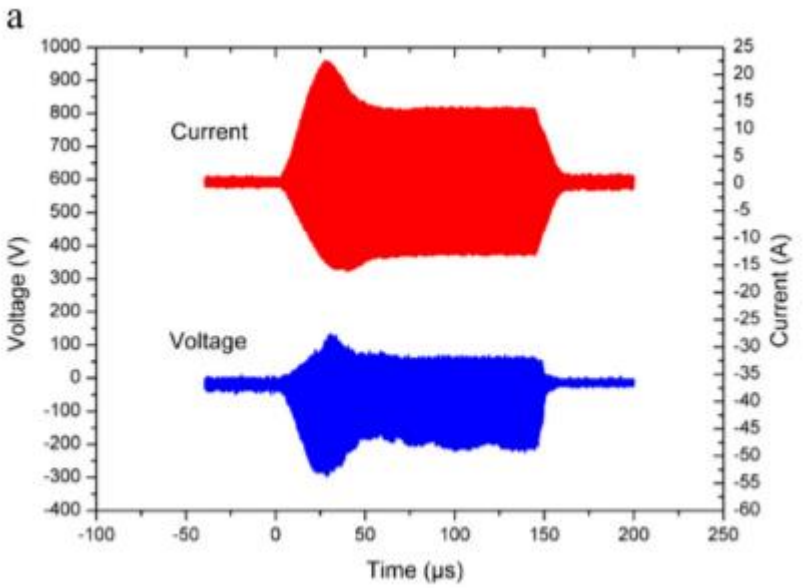
Plasma analysis of inductively coupled impulse sputtering of Cu, Ti and Ni

DOI: https://doi.org/10.1088/1361-6595/aa6f79

The objective of this paper was to investigate the ionization mechanisms in an Inductively coupled impulse sputtering (ICIS) system and to demonstrate how the ionization relates to the power input to the coil and the operating pressures.

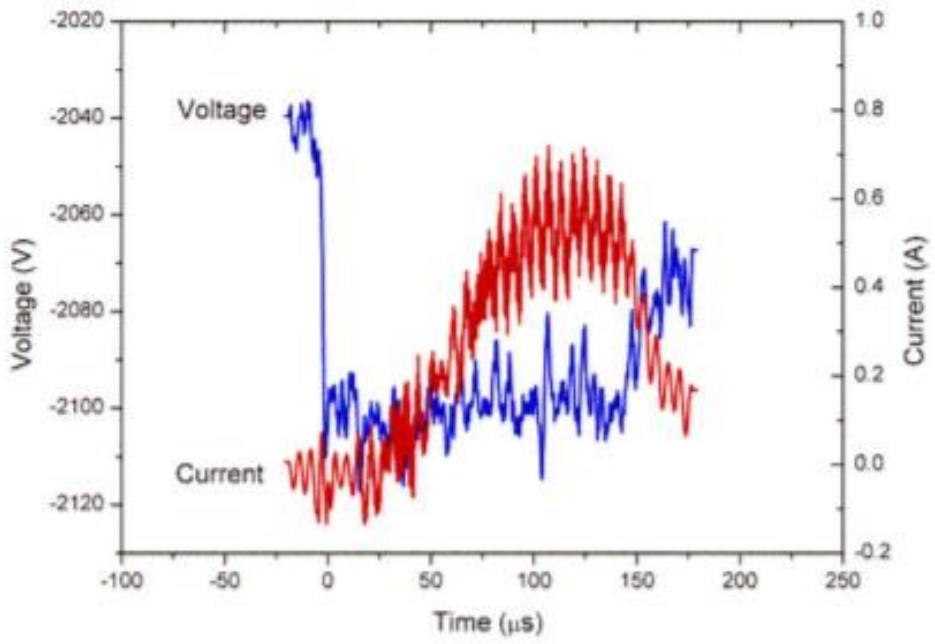
Some example data is shown to the right.



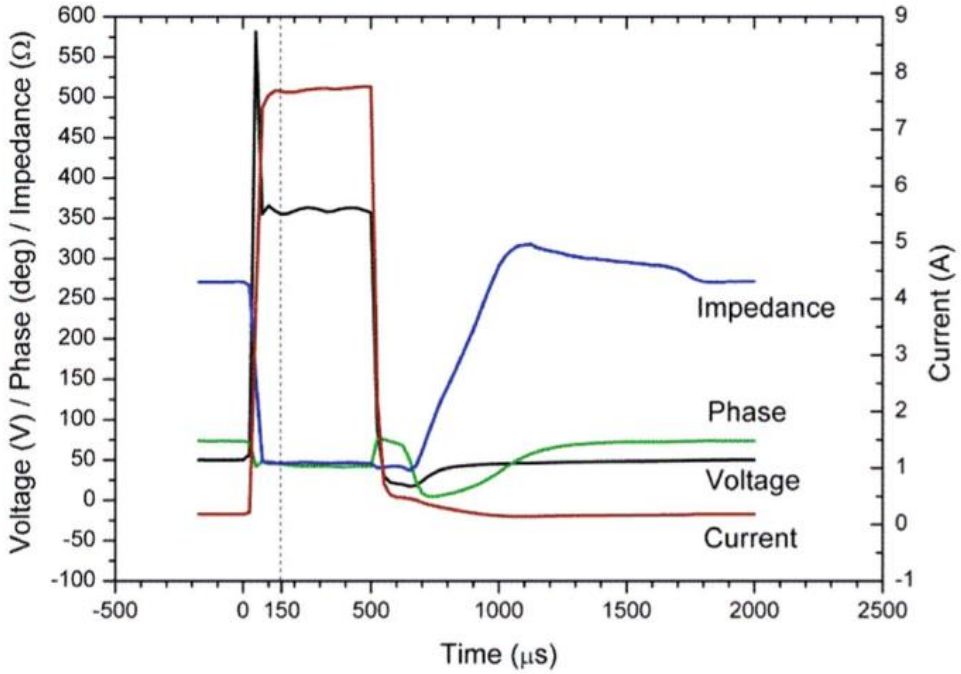


Experimental setup for ICIS plasma measurements inside the UHV system. Example of current and voltage waveform for a 2400 W ICIS titanium plasma with pulse width of 150 µs and frequency of 500 Hz applied to the coil.

Simultaneous measurement of Current, Voltage, Impedance, Phase and Instantaneous power in an inductively coupled impulse sputtering



Current and voltage measurement on the cathode.



Temporal evolution of the waveforms for an ICIS of Titanium discharge 2300 W ICIS pulse, 500 μs pulse width, 500 Hz repetition frequency.

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