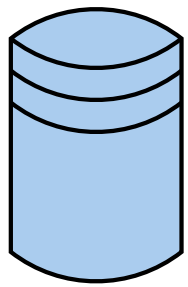
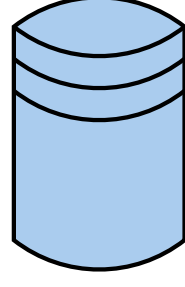


Vacuum discharge

(Current through
the chamber only)



ID:uloop
 $\approx U_l$



ID:irog
 $\approx \frac{dI_{ch}}{dt}$

Calibration⁵⁾

Offset correction
Integration³⁾
Calibration⁴⁾

$U_l(t)$

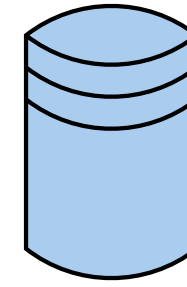
$I_{ch}(t)$

Chamber resistance^{1,2)}

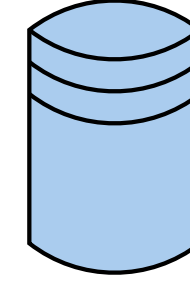
$$R_{ch} = \frac{U_l}{I_{ch}}$$

Plasma discharge

(Current through
the chamber and the plasma)



ID:uloop
 $\approx U_l$



ID:irog
 $\approx \frac{dI_{ch+p}}{dt}$

Calibration⁵⁾

Offset correction
Integration³⁾
Calibration⁴⁾

$U_l(t)$

$I_{ch+p}(t)$

Plasma current²⁾

$$I_p(t) = I_{ch+p}(t) - \frac{U_l(t)}{R_{ch}}$$

1) With some statistical effort. 2) Do it in the stationary phase, i.e. current constant, to avoid inductive phenomena. 3) 1 us step. 4) Rogowski Coil calibration constant = $5.3 \cdot 10^6$ A/Vs 5) Uloop calibration constant = 5.5