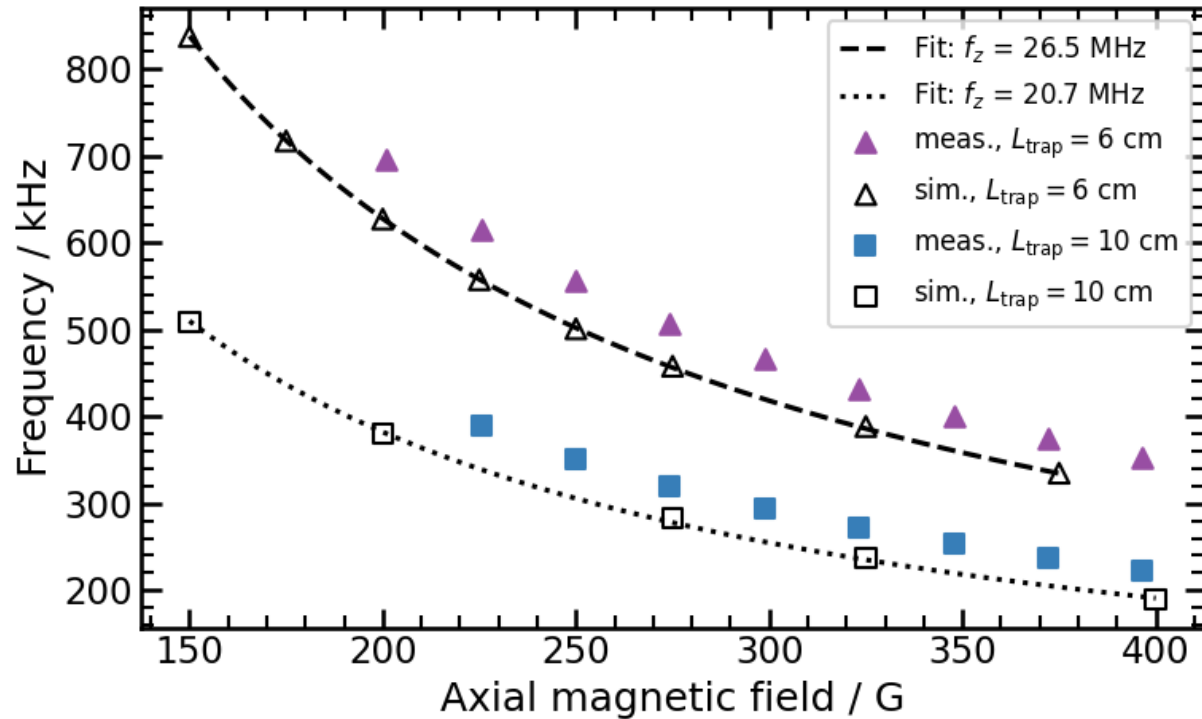


LhARA Capture Meeting

27th January 2022

Titus Dascalu

Magnetron freq. vs. B-field

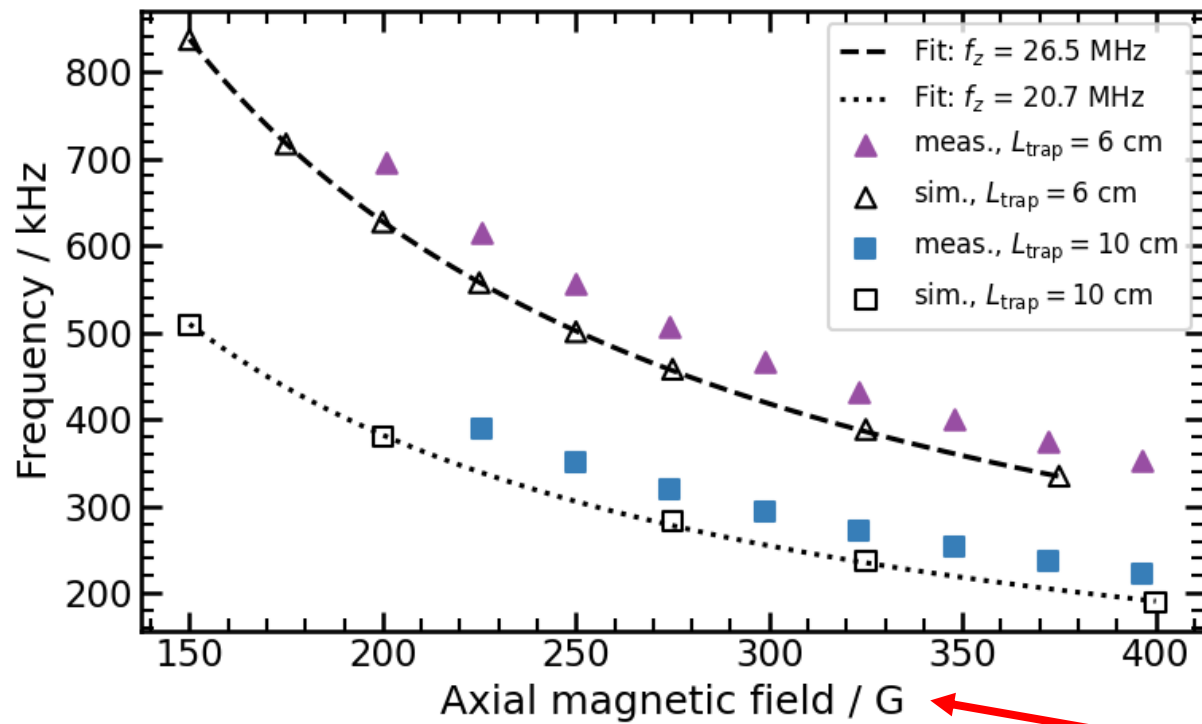


$$\omega_m = \omega_c / 2 - \sqrt{(\omega_c / 2)^2 - \omega_z^2 / 2}$$

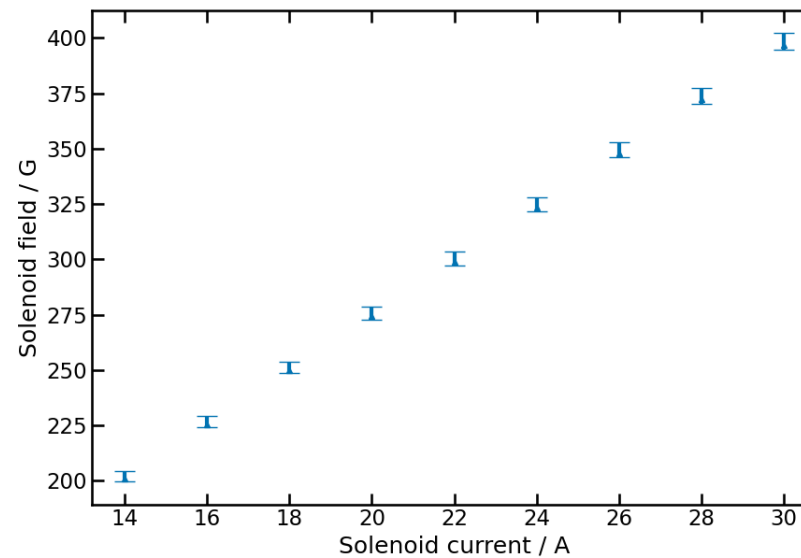
$$\omega_c = \frac{eB}{m_e}$$

$$\omega_z = \omega_z(V_{\text{gate}}; \text{electrode geometry})$$

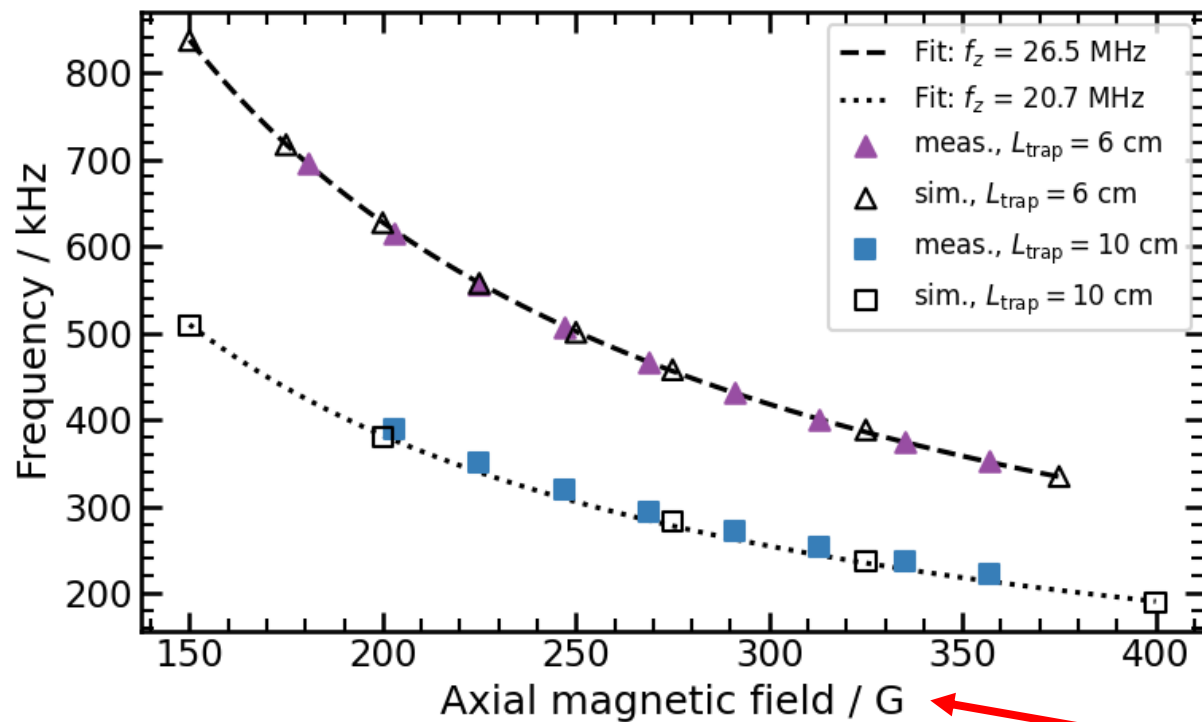
Magnetron freq. vs. B-field



2D magnetostatic simulation of the coil

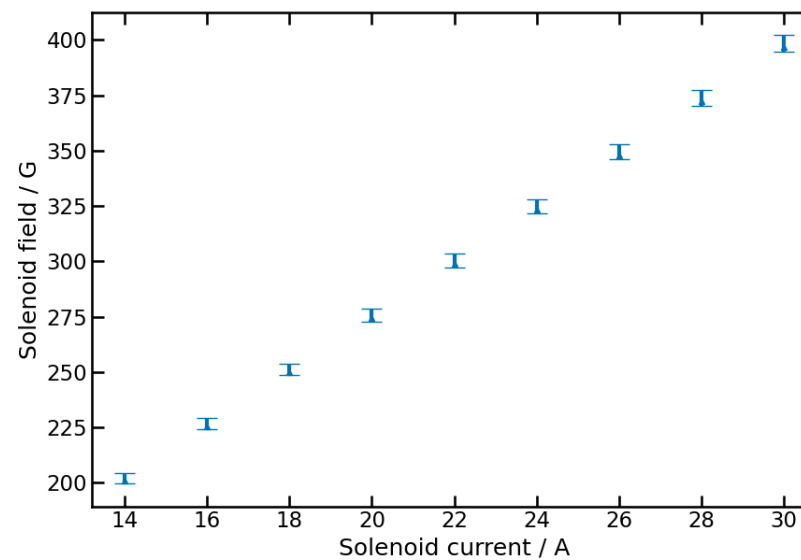


Magnetron freq. vs. B-field

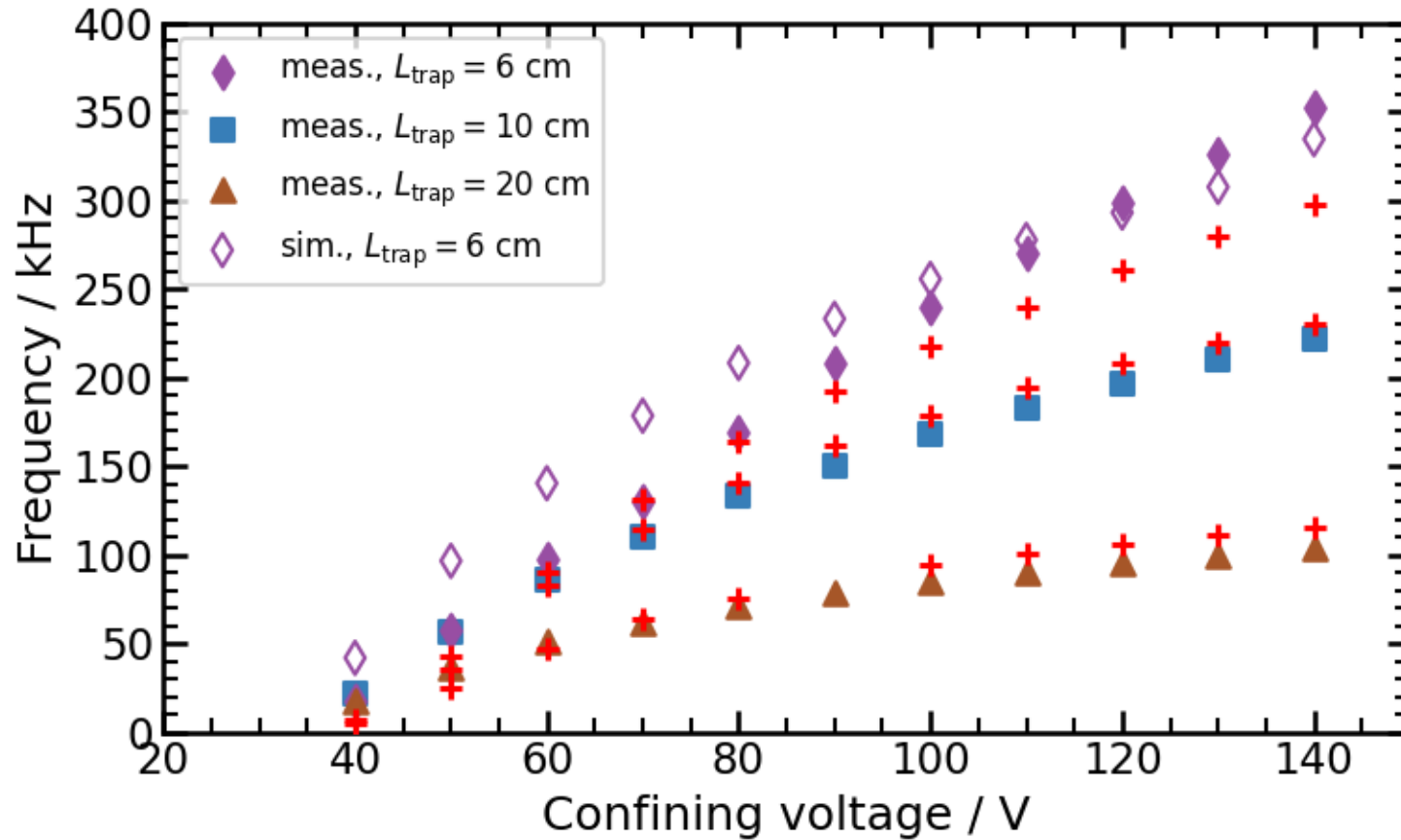


Multiply by a
correction
 $\times 0.9$

2D magnetostatic simulation of the coil

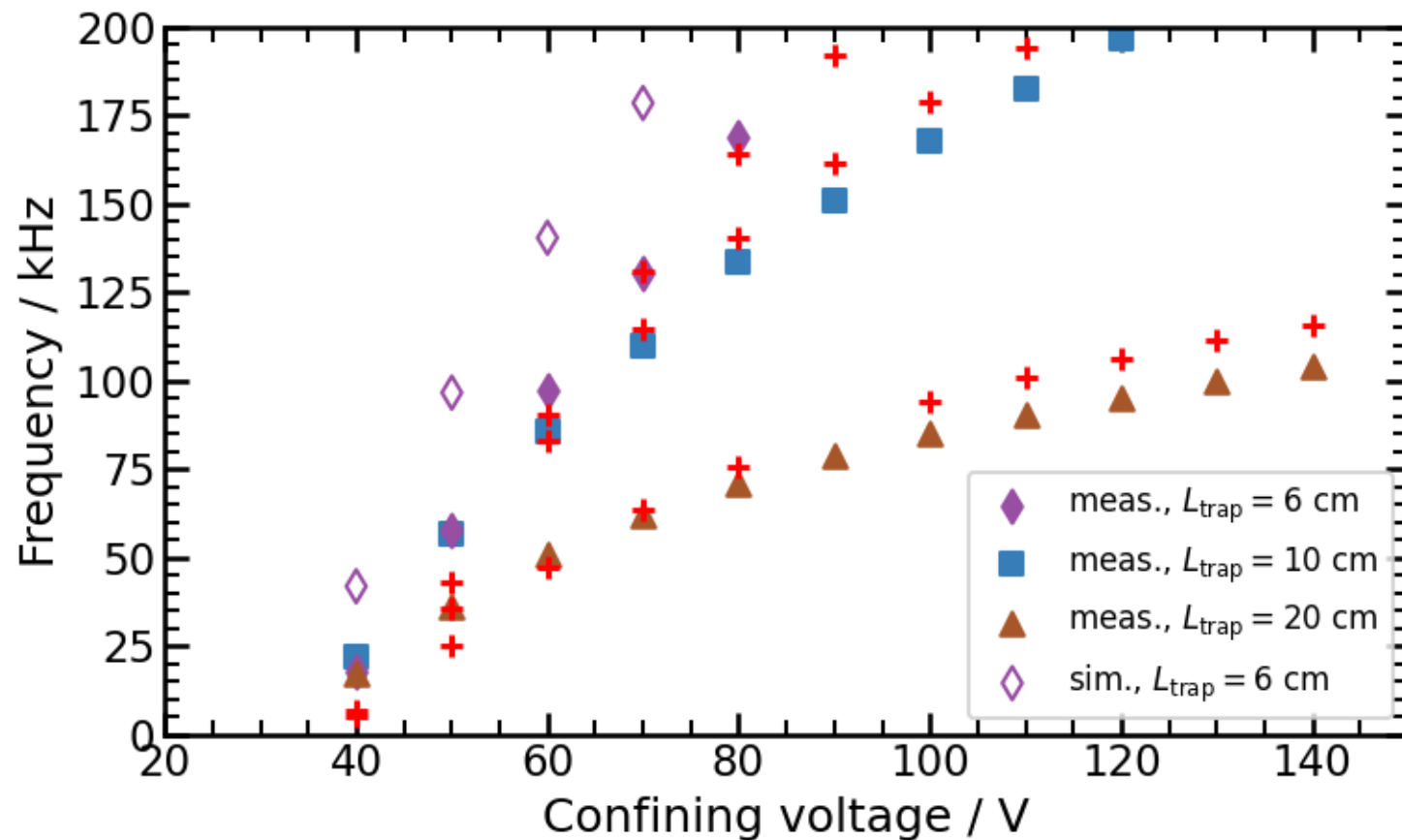


Magnetron freq. vs. end-gate voltage



+ Numerical calc.
(C. Baker)

Magnetron freq. vs. end-gate voltage



+ Numerical calc.
(C. Baker)