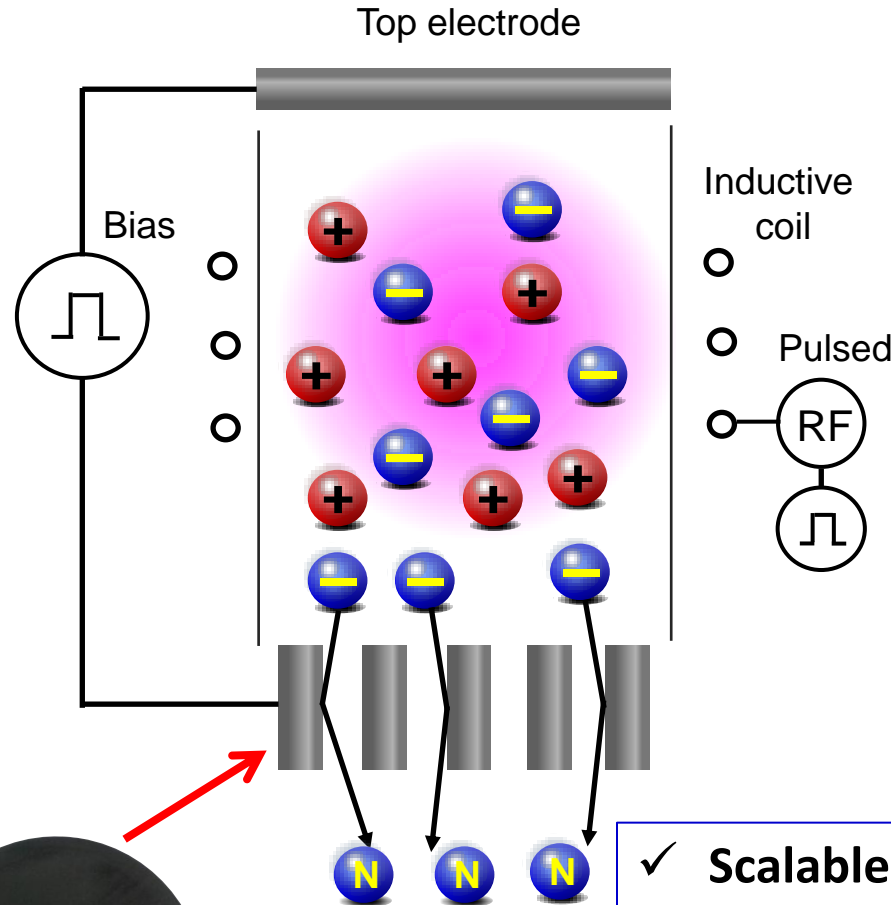


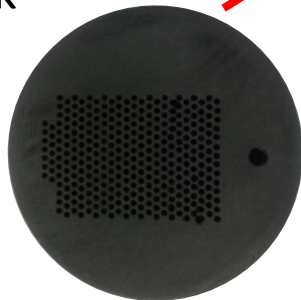
How to accelerate neutrals?

- ✓ Simultaneous extraction and surface neutralization of ions



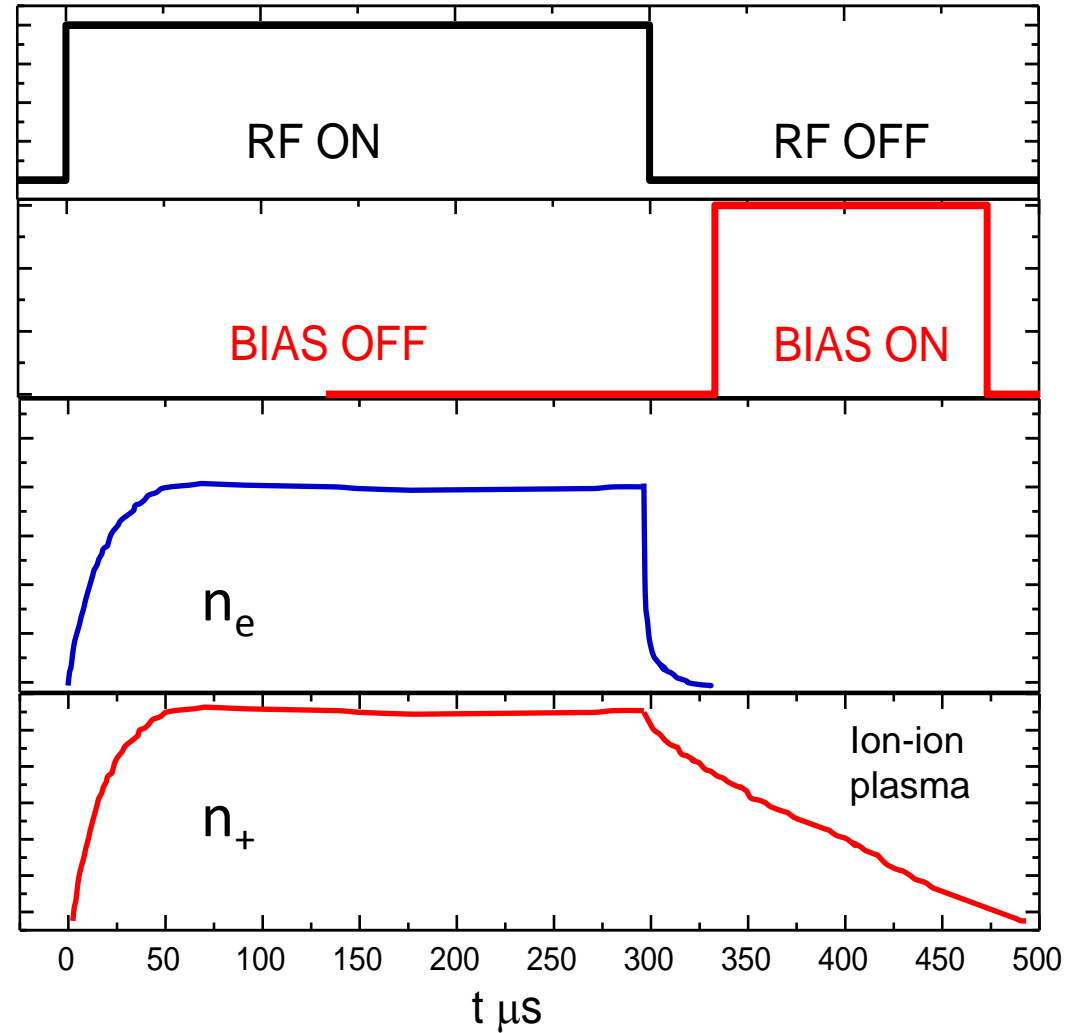
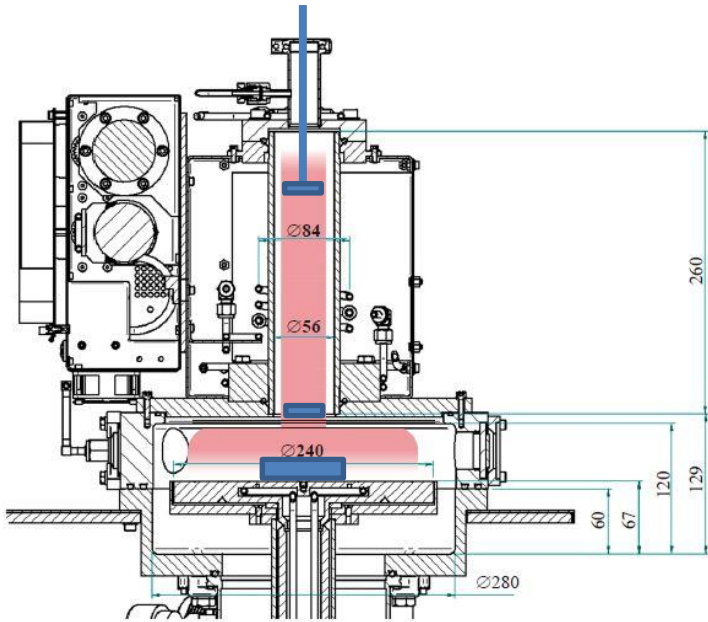
Carbon neutralizer

- 10 mm thick
- 1 mm holes



- ✓ Scalable
- ✓ Fine control of the beam energy
- ✓ Control of the beam composition

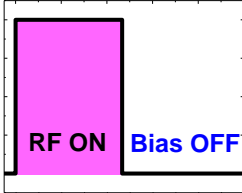
Operation of the neutral beam source



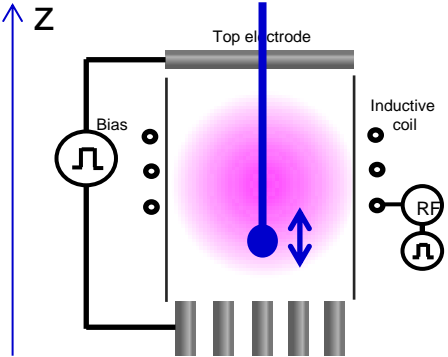
Typical conditions

- pure SF_6
- $p=25$ mTorr
- 2 kHz, 50% duty cycle
- $P_{\text{pulse}}=400$ W
- $U_{\text{bias}} = -150\dots+150$ V

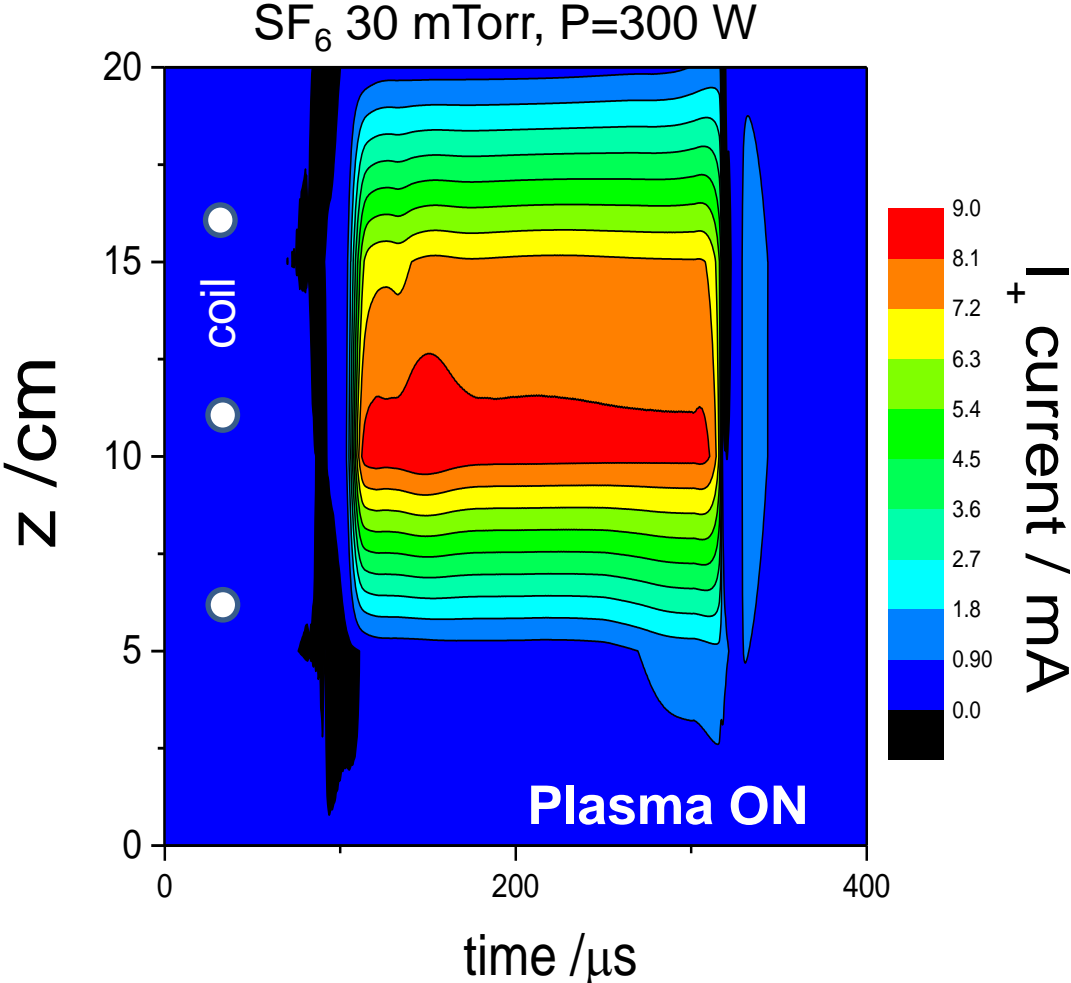
Discharge characterization: active glow



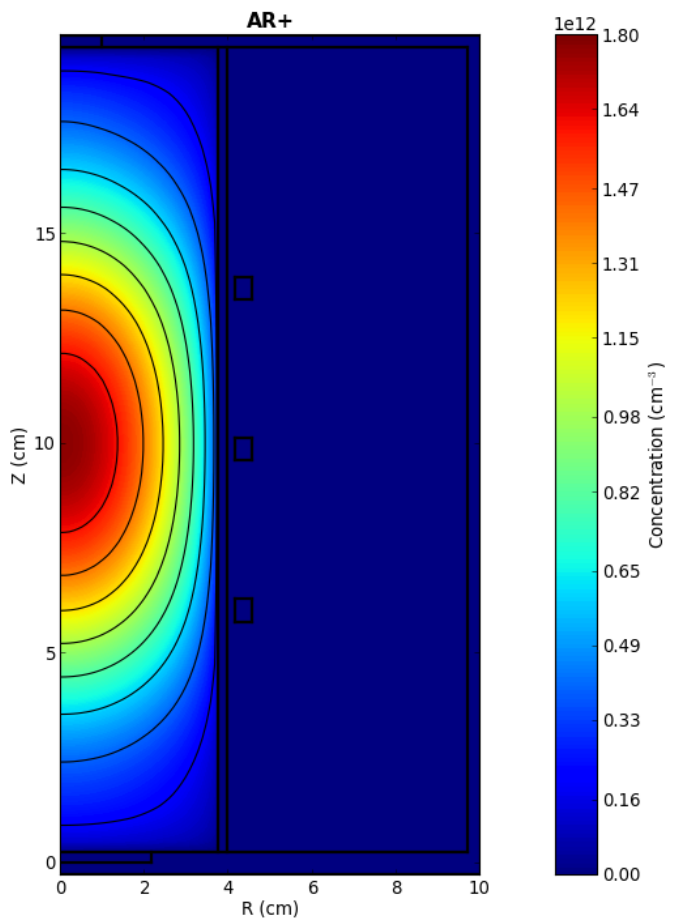
Planar Langmuir probe measurements



- Time and space resolved
- Max $n_+ \sim 10^{18} \text{ m}^{-3}$
- Discharge is localized inside the coil



Comparison experiment Vs QVT simulation



Ar, 20 mTorr, P = 50 - 400 W

