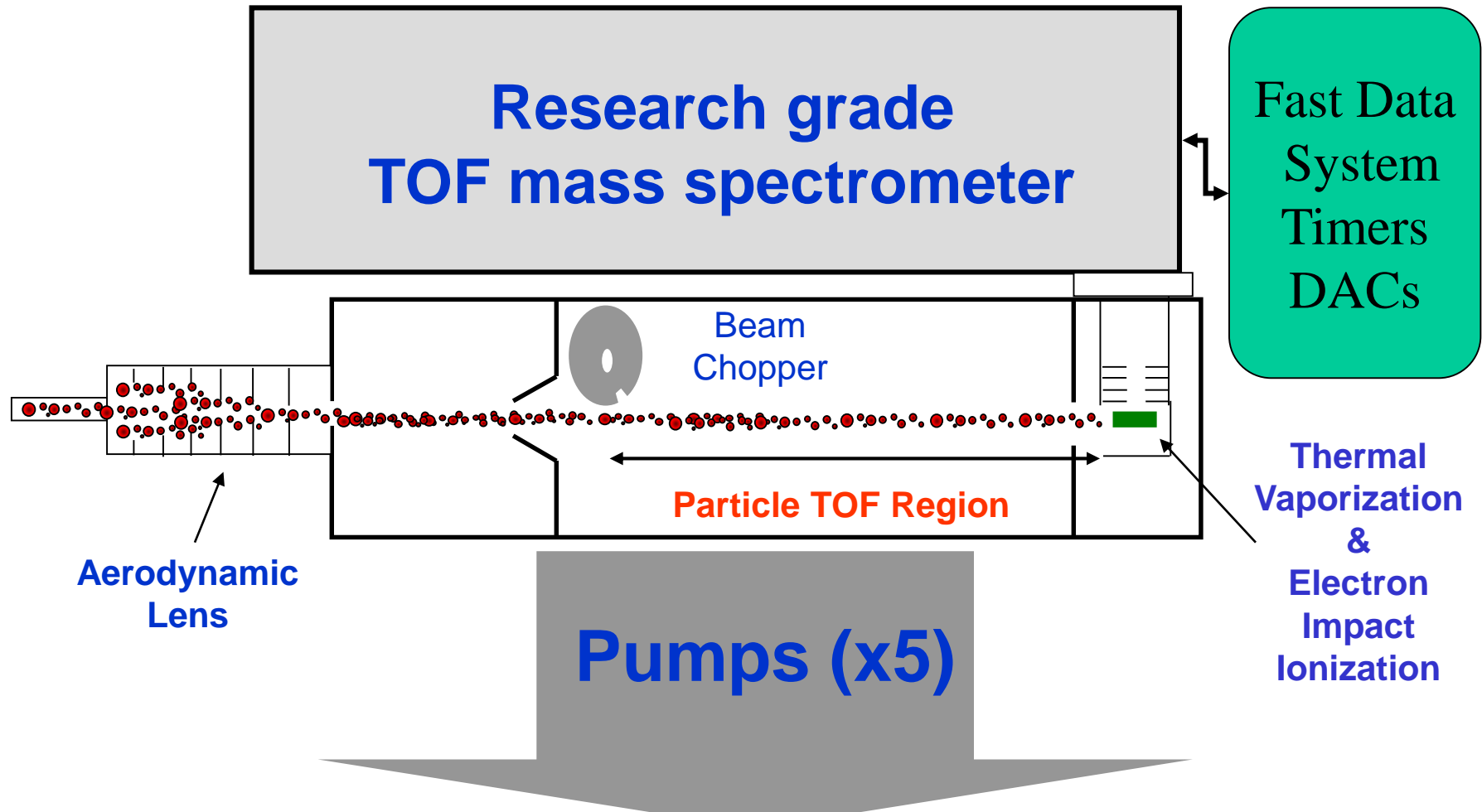


# AMS/ACSM Calibrations

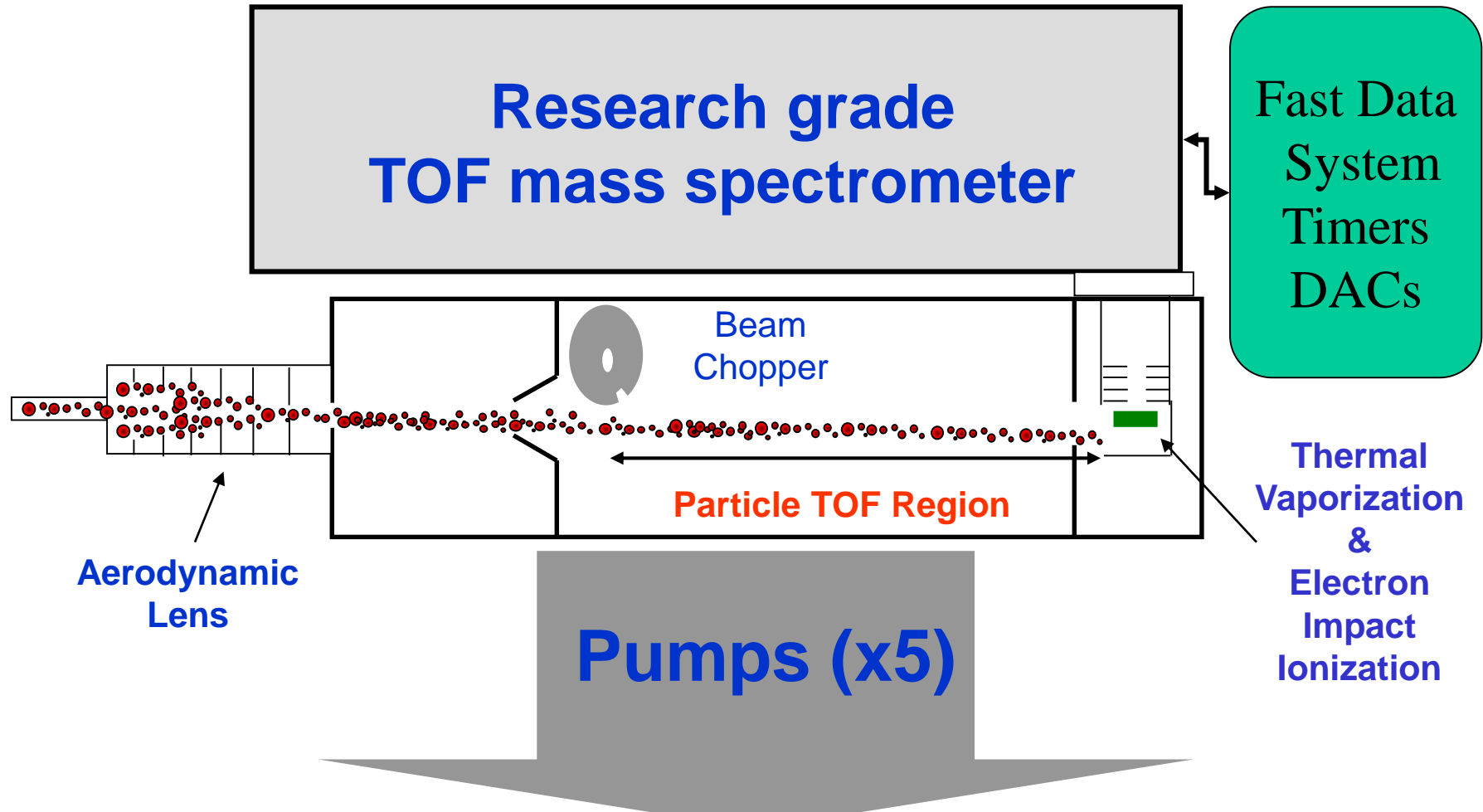
## Lens Alignment

Phil Croteau – [croteau@aerodyne.com](mailto:croteau@aerodyne.com)

# Good lens alignment



# Bad Lens Alignment



# Setup for particle lens alignment

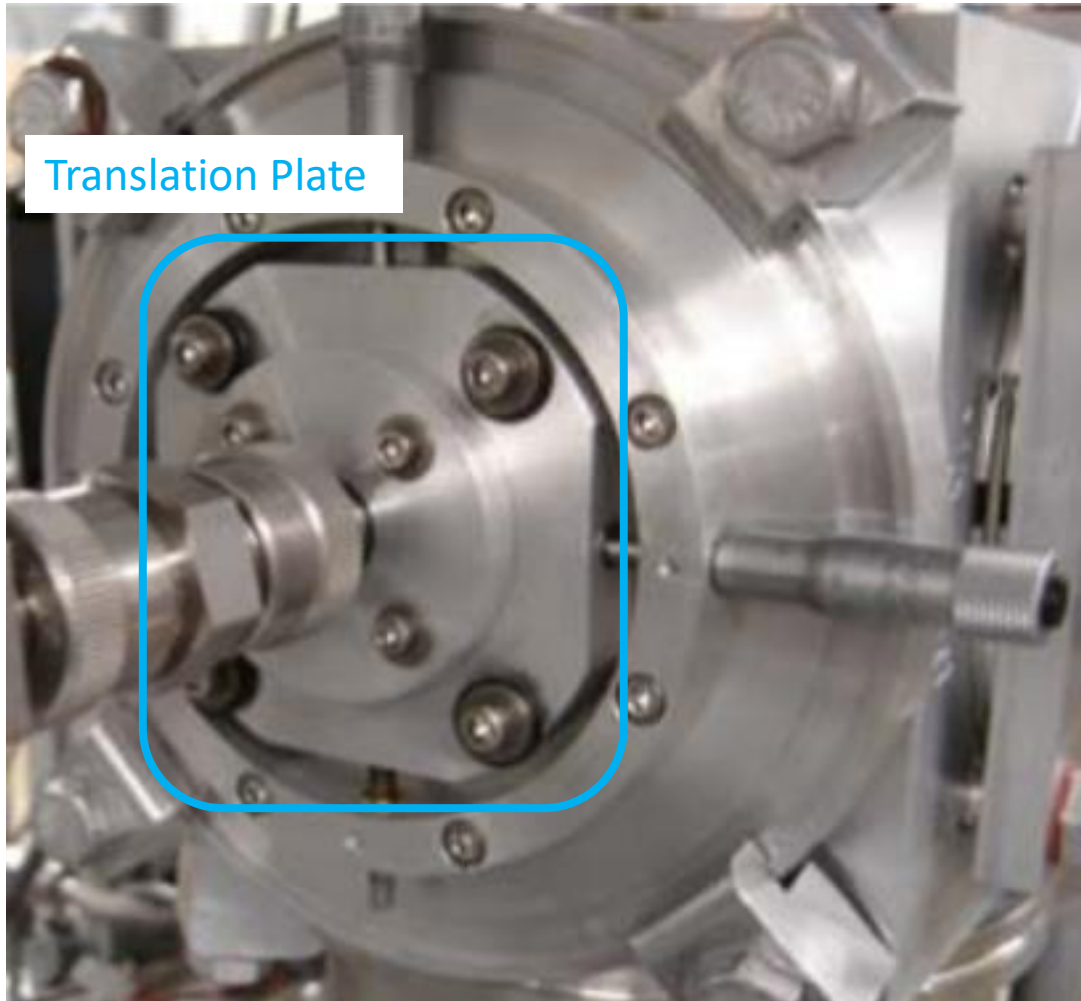


# Particle Lens Alignment



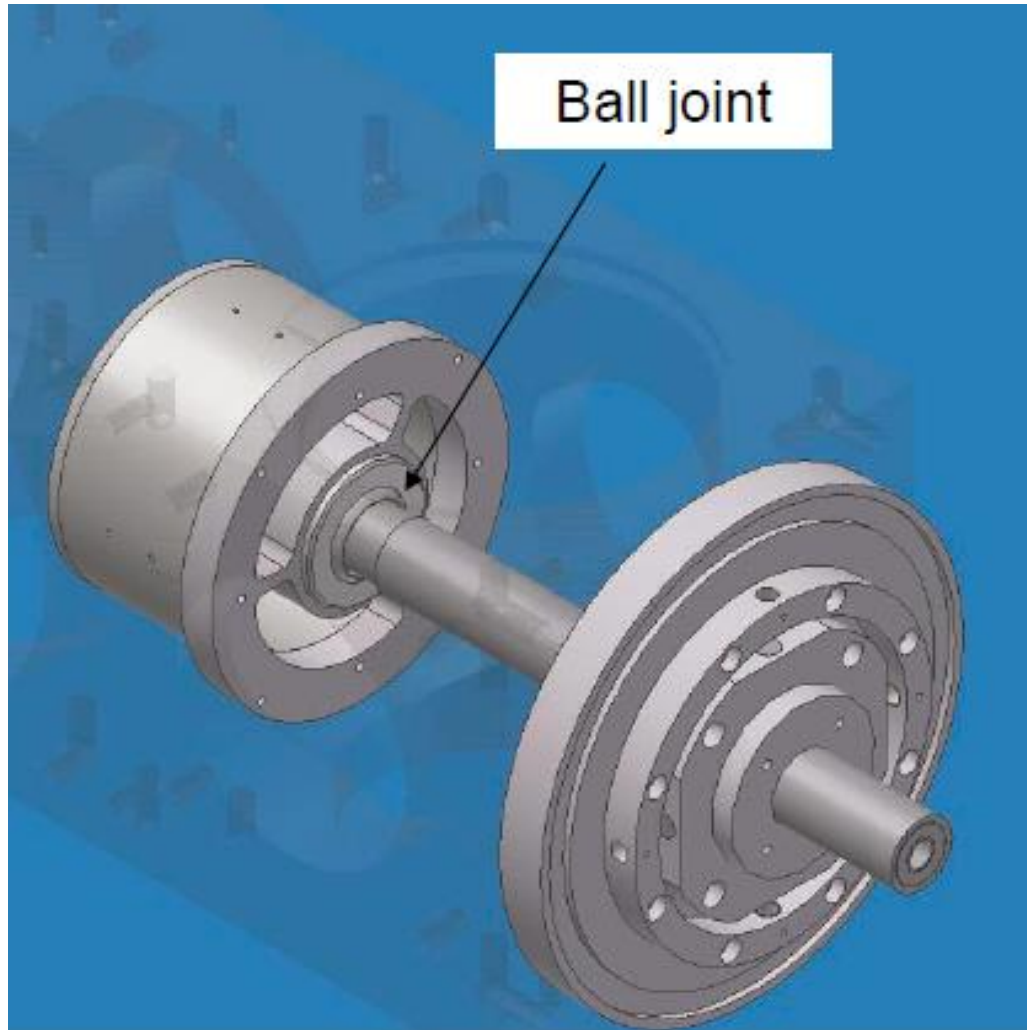
Before beginning turn off:  
Filament  
Vaporizer  
High Voltages

# Particle Lens Alignment



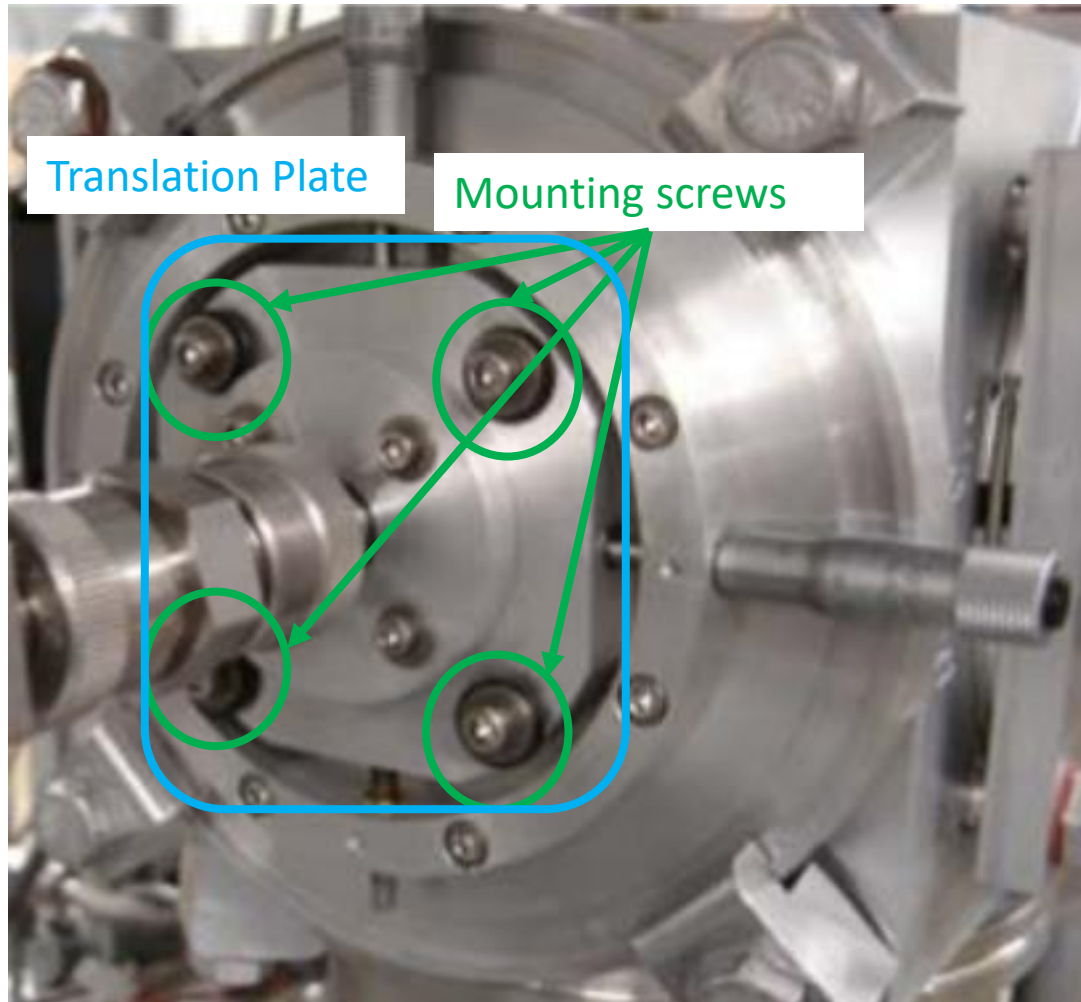
Before beginning turn off:  
Filament  
Vaporizer  
High Voltages  
We'll be moving the  
Translation Plate to change  
the direction of the particle  
beam

# Particle Lens Alignment



When we move the translation plate up, the lens exit points down, etc.

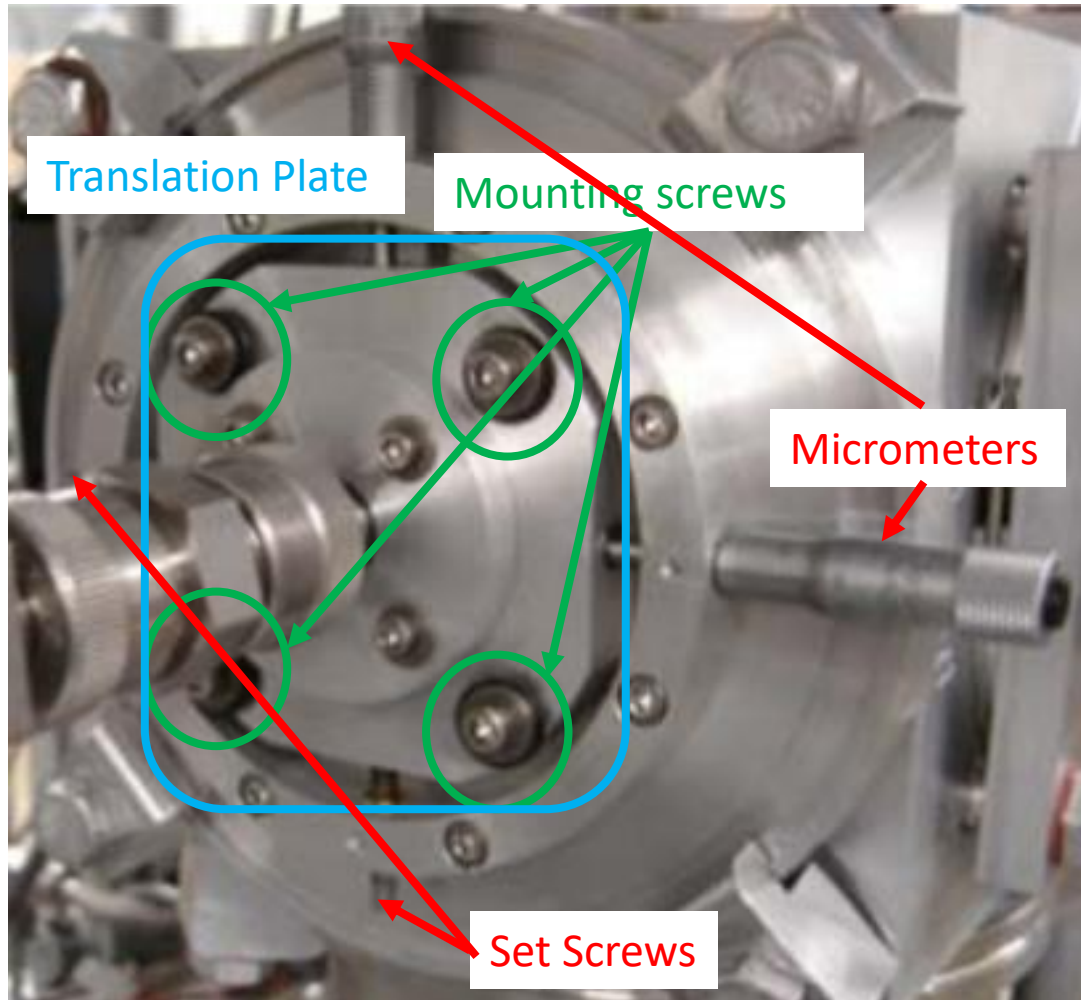
# Particle Lens Alignment



Slightly loosen 4x mounting  
screws with 7/64" driver  
Do not remove!



# Particle Lens Alignment



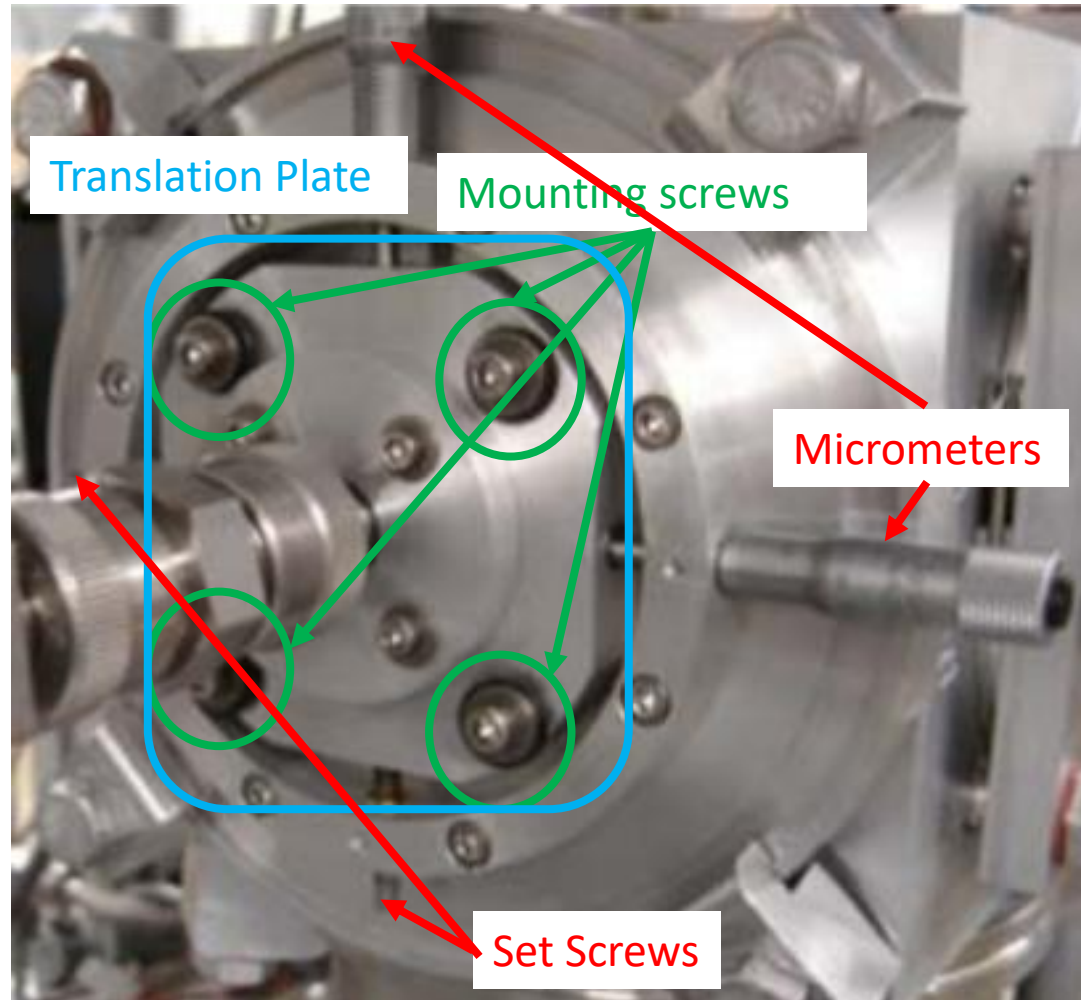
Loosen vertical micrometer and  
set screw slightly  
Loosen horizontal micrometer a  
lot

Using 1/16" driver, push  
translation plate left to right  
Move back, pushing with  
thumbs

**DO NOT USE MICROMETER TO  
PUSH!**

Repeat for vertical until you're  
comfortable that it moves freely

# Particle Lens Alignment

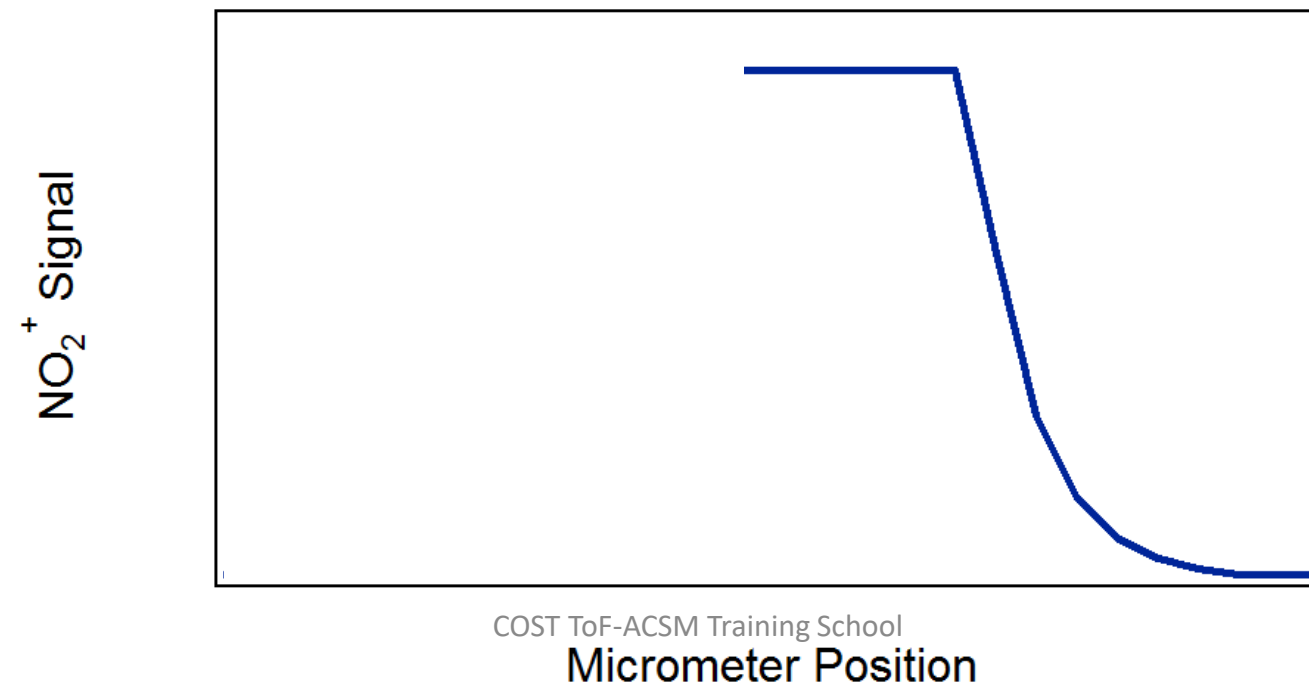
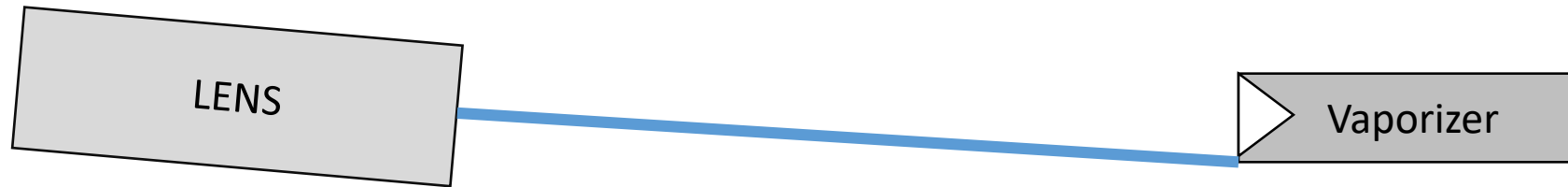


Once the translation plate is moving well turn vaporizer, filament, and high voltages back on.

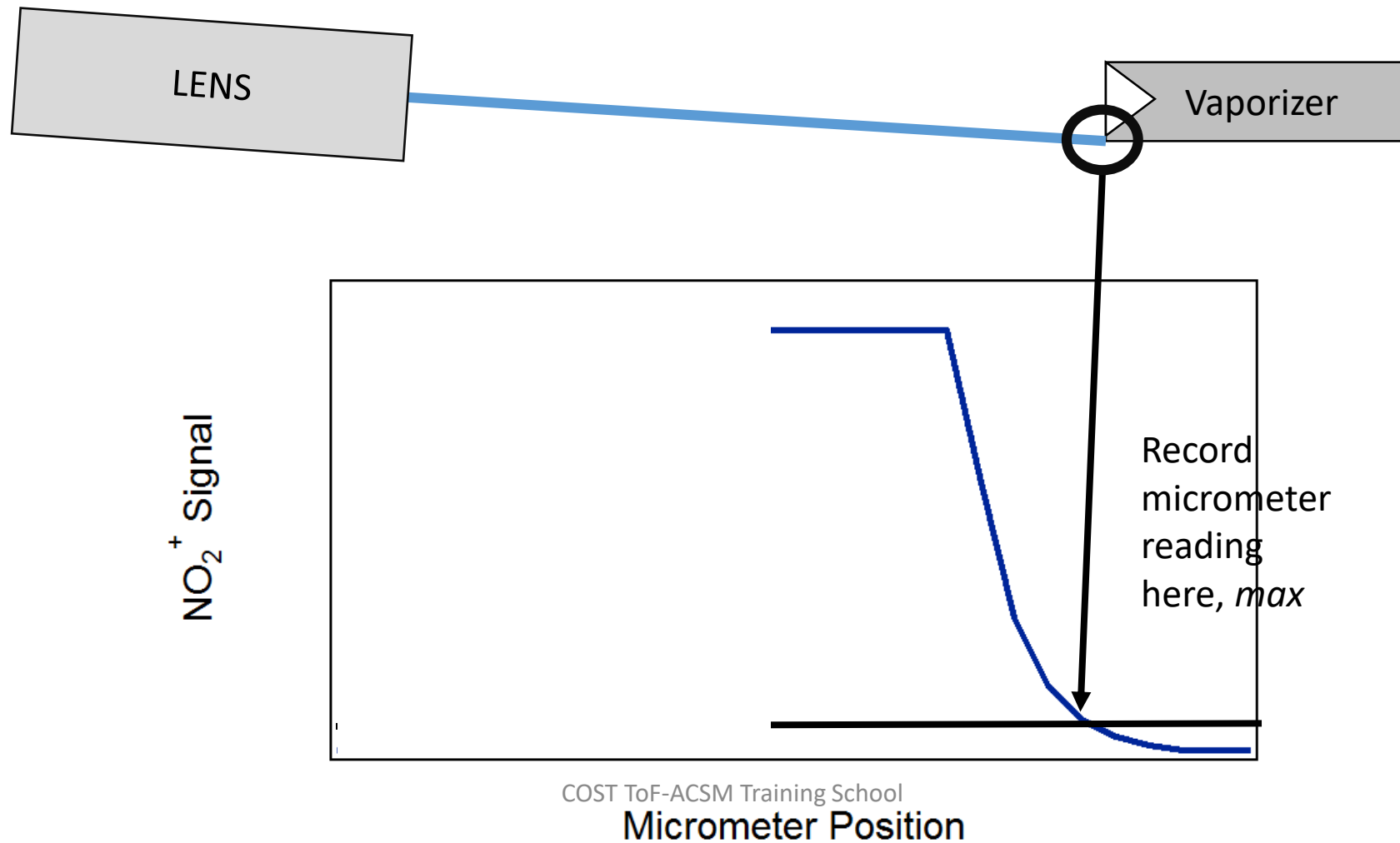
# Move lens while monitoring $\text{NO}_2^+$ (m/Q 46) signal



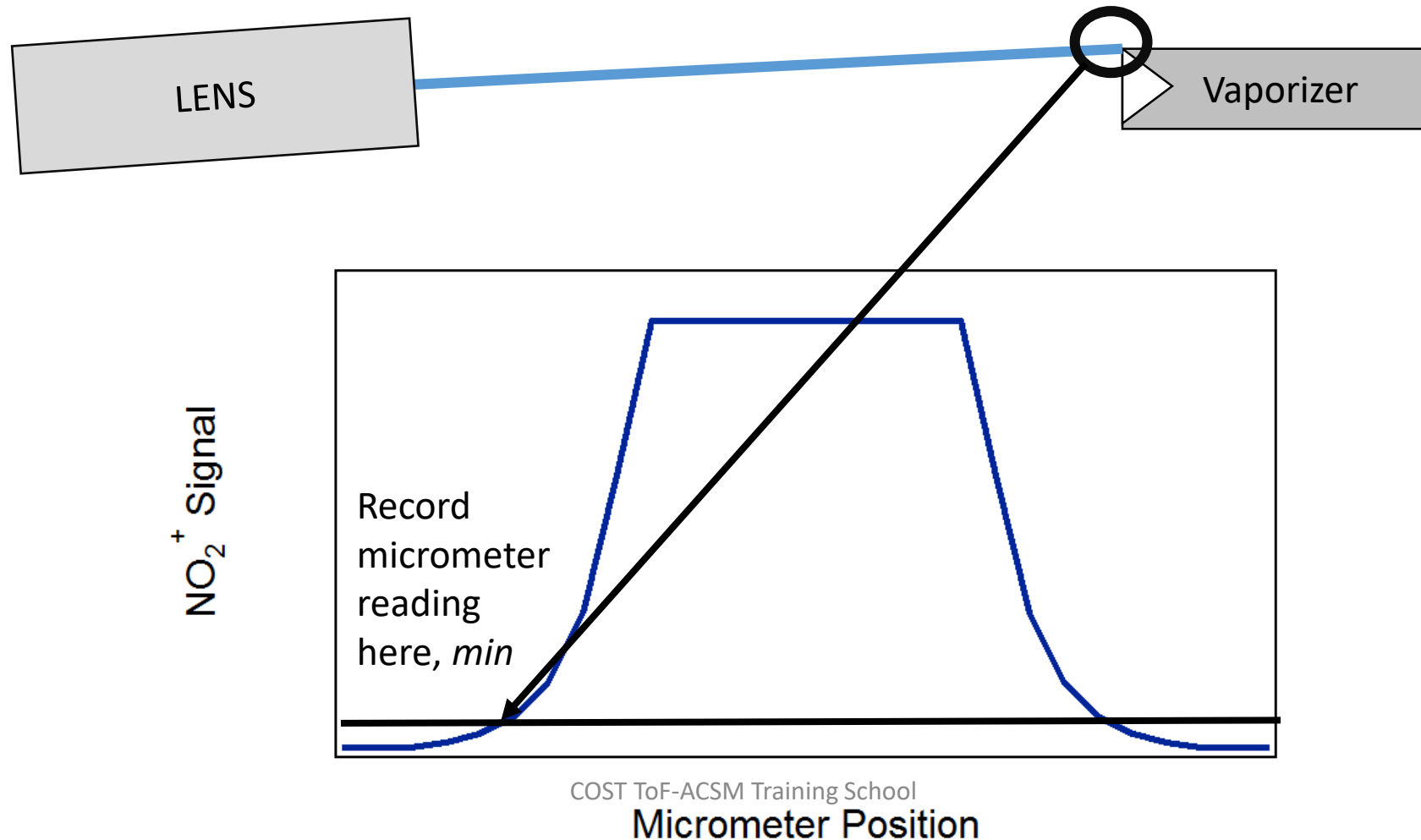
# Move lens while monitoring $\text{NO}_2^+$ (m/Q 46) signal



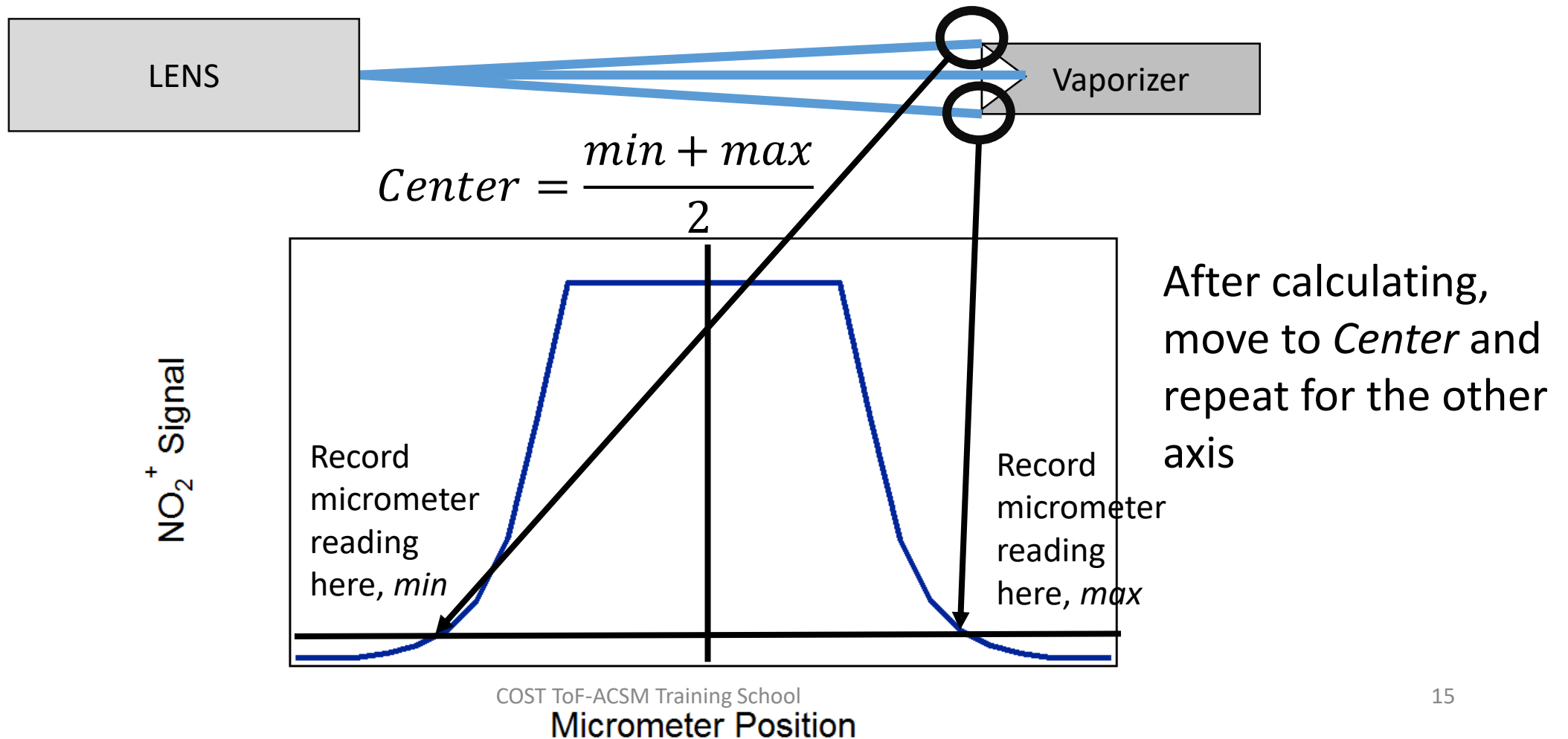
# Move lens while monitoring $\text{NO}_2^+$ (m/Q 46) signal



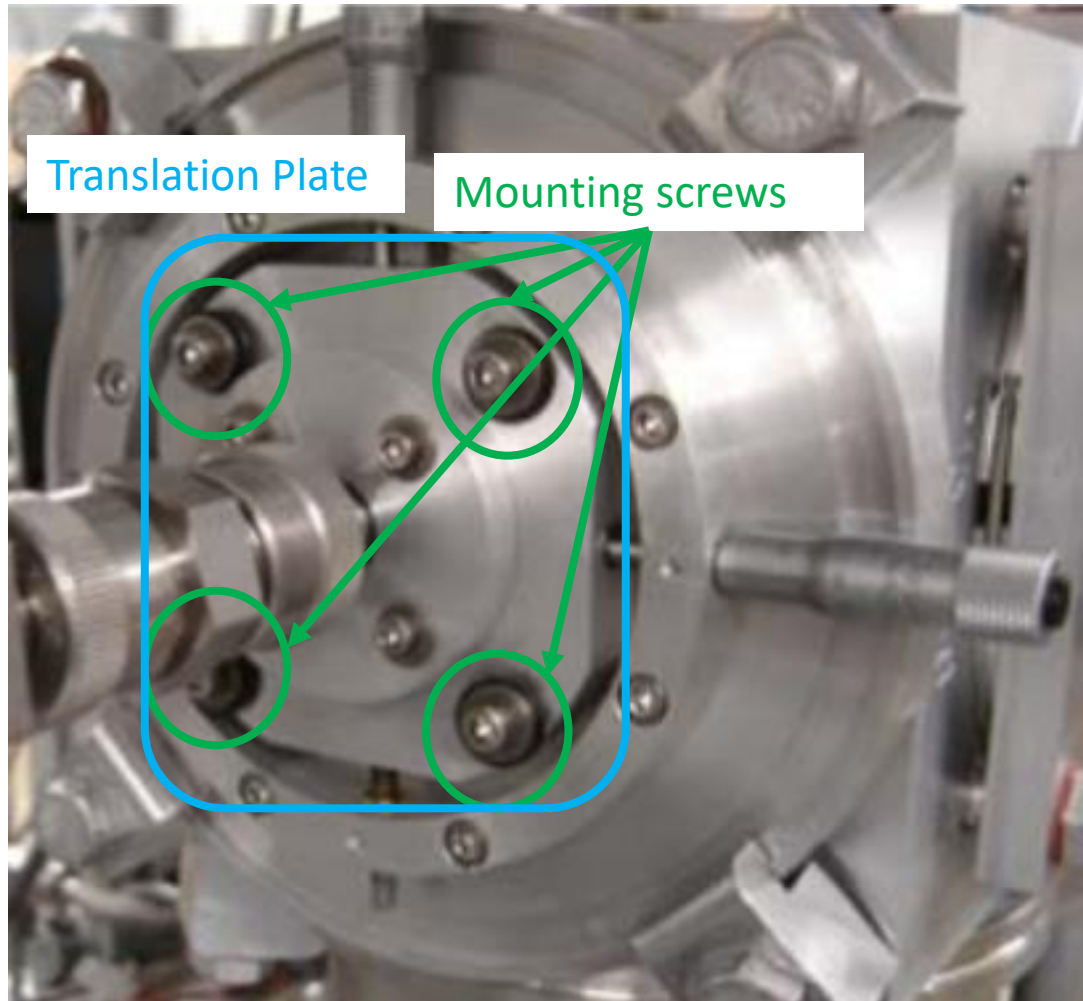
# Move lens while monitoring $\text{NO}_2^+$ (m/Q 46) signal



# Move lens while monitoring $\text{NO}_2^+$ (m/Q 46) signal



# Particle Lens Alignment



Don't forget to tighten  
mounting screws back down  
when you're done!