

## EFC Calibration

Generate Jacobian  $G_{EFC}$  with instrument model

Apply positive  
calibration  
mode

Compute electric field  
with positive mode:  
 $\mathbf{E}_P$

Apply negative  
calibration  
mode

Compute electric field  
with negative mode:  
 $\mathbf{E}_N$

Compute mode  
response with the  
difference:  
$$\mathbf{R}_i = \frac{\mathbf{E}_P - \mathbf{E}_N}{2a_{mode}}$$

Repeat for next calibration mode ( $i + 1$ )

## EFC Controller

Pseudo-invert Jacobian  $G_{EFC}$  to get control matrix  $M_C$

Estimate FP  
EF with PWP:  
 $\mathbf{E}_{ab}$

Compute Modal  
Coefficients:  
 $\mathbf{m}_c = -M_C \mathbf{E}_{ab}$

Compute Actuator  
Commands:  
 $\mathbf{A} = M_{modes} \mathbf{m}_c$

Apply  $\mathbf{A}$   
to the  
actuators