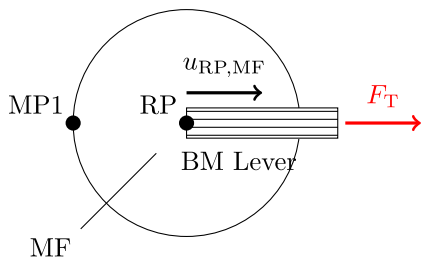


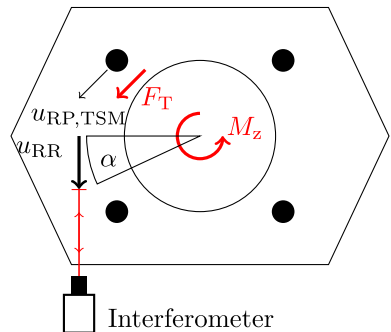
Stiffness Calibration

TSM Calibration

Force Measurement



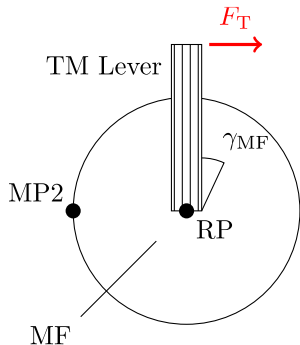
$$k_{MF,F} = F_T / u_{RP}$$



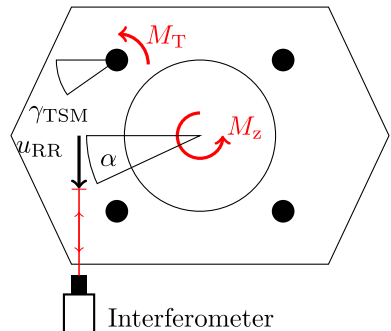
$$\sin \alpha = u_{RR} / r_{RR}$$

$$F_T = k_{MF,F} \cdot \sin \alpha \cdot r_{MF}$$

Torque Measurement



$$k_{MF,\gamma} = M_T / \gamma_{MF}$$



$$\sin \alpha \approx \sin \gamma_{TSM}$$

$$M_T = k_{MF,\gamma} \cdot \gamma_{TSM}$$