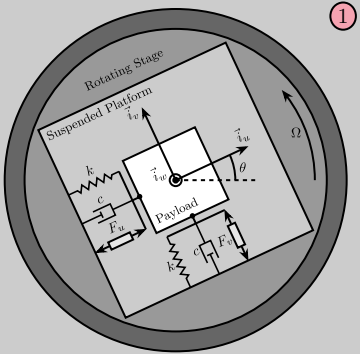
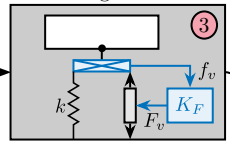
Rotating Model



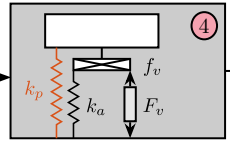

Gyroscopic effects on the dynamics:
- Shift of pole location
- Added coupling
- Lost IFF unconditional stability 2

Two IFF modification are proposed

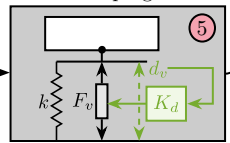
IFF with High Pass Filter




IFF with Parallel Stiffness

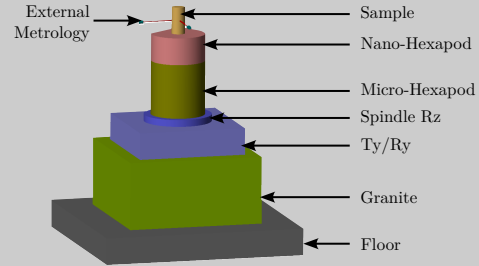



Relative Damping Control




6 Comparison of the three active damping techniques

Rotating NASS model

Apply previous analysis on nano-hexapod model: 7
- Compute optimal active damping parameters
- IFF is less effective for the soft nano-hexapod
- Coupling is smaller for the stiff nano-hexapod

Apply previous analysis on the NASS model: 8