**SERVO SYSTEMS MECHANICAL ISSUES**

That must Solve with Servo-Driver

**Motor side sourced**

Inertia (J) identification (Load moment issues)

Viscous friction Coefficient (B)

**Mechanical side sourced**

\*Mechanical Resonance (at low frequency)

\*Mechanical (torsional) vibration (general problem – Suppression issues) (motor chatter oscillation slightly because of shaft vibration)(because of high control gains)(velocity and position error)

Mechanical Friction (various with respect to mechanics)

Mismatch – Uncertainties (high frequency)

Non-Periodic or Periodic disturbance suppression

Unbalanced & Reduced torque (load sourced or motor sourced)(workload limits, low voltage, voltage drop, capacitor failure, )

Temperature Dependence (Required electrical parameter Rs, Ld, Lq Estimation) (running hot)

High frequency response issue (high frequency noise)

**Mechanical side system components that cause disturbance, friction, vibration, sliding ...**

Couplings (torsions) elastic nature

Screw

Bearings

Conveyor Belt (stretch)

Gear wheel

Rail motion with jogging (inverted pendulum problematic)

**Problem:** Automatically Detection & Estimation of them (mechanic issues) and suppression, filtering or compensation to them.

In filter design, what is the amplitude and width of the disturbance and how the driver detect and determine it.

**Filter Options**

**Notch Filter**

Series notches

**Biquad Filter**

adjustible