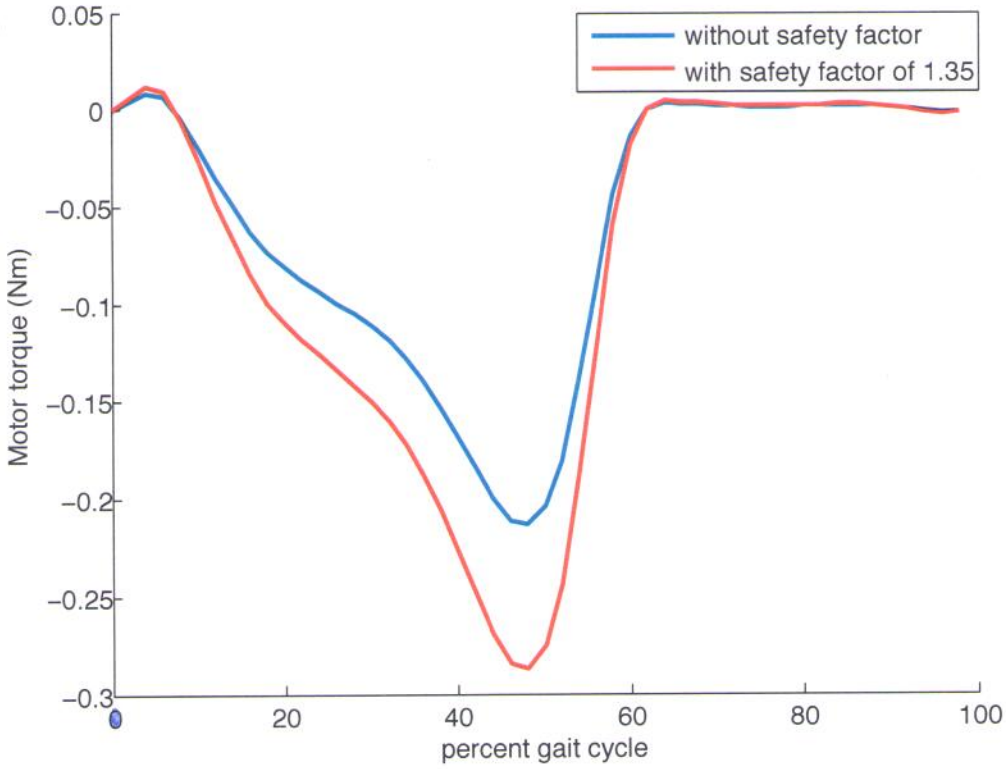
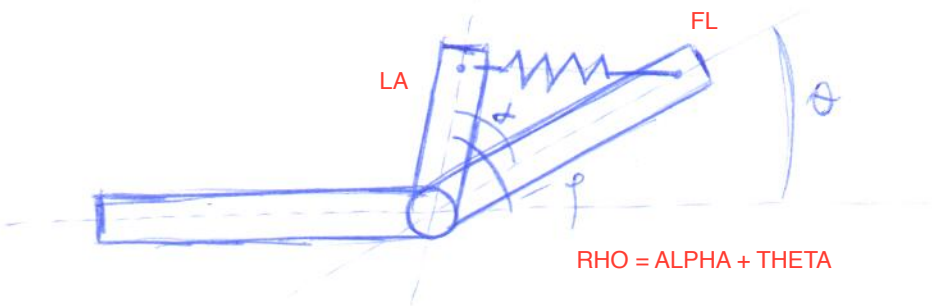
ANKLE

$$T = K \cdot B \cdot C \cdot \sin(\alpha) \cdot \left[1 + \frac{P - |C - B|}{A}\right]$$

$B = 0.035$ [m]
$C = 0.05$ [m]
$K = 53000$ [N/m]
$A = \sqrt{B^2 + C^2 - 2BC\cos(\alpha)}$

$P \in [0, 18]$ [mm]
Spring rest length = 44 mm
Designed for 40% of 18 mm





RHO = ALPHA + THETA

θ => measured by OPTICAL ENCODER — FIX_LINK_ANGLE

alpha => measured by MAGNETIC ENCODER — LEVER_ARM_ANGLE