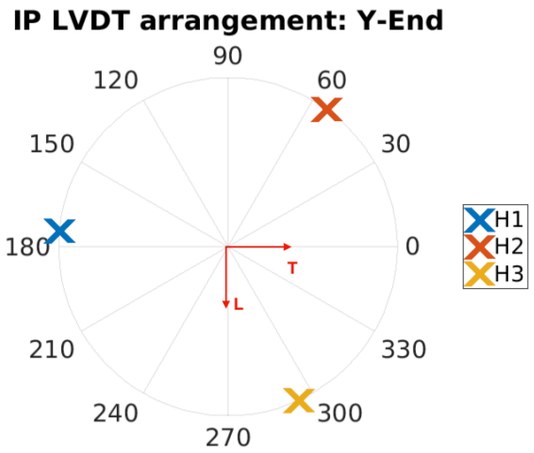
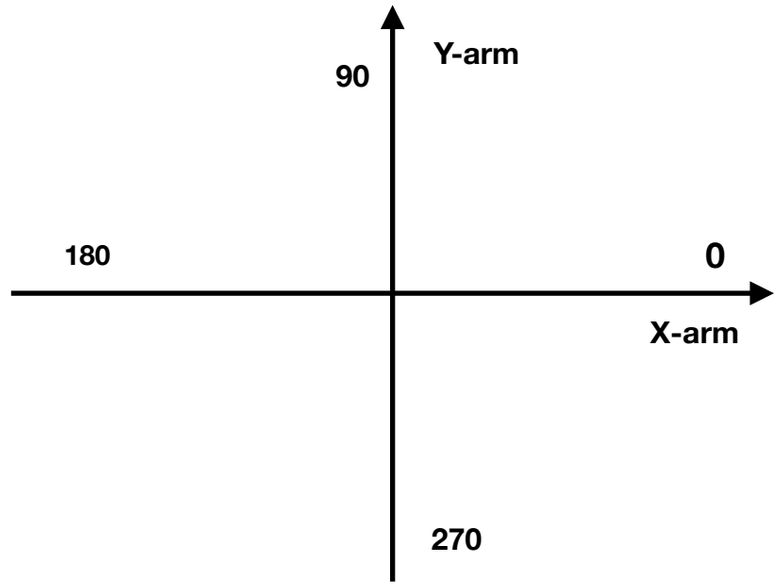
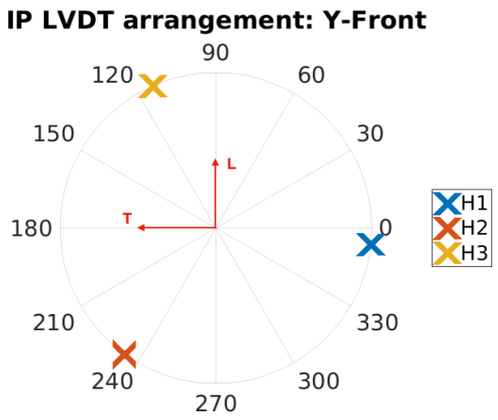
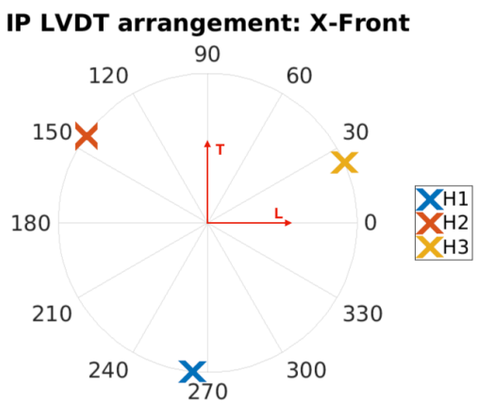
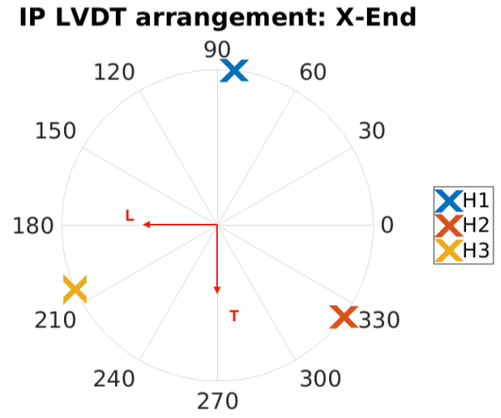
Y-arm


IP LVDT arrangement: Y-End
90
120
60
150
30
180
0
210
330
240
300
270
T
L
H1
H2
H3


Y-arm
90
180
0
X-arm
270

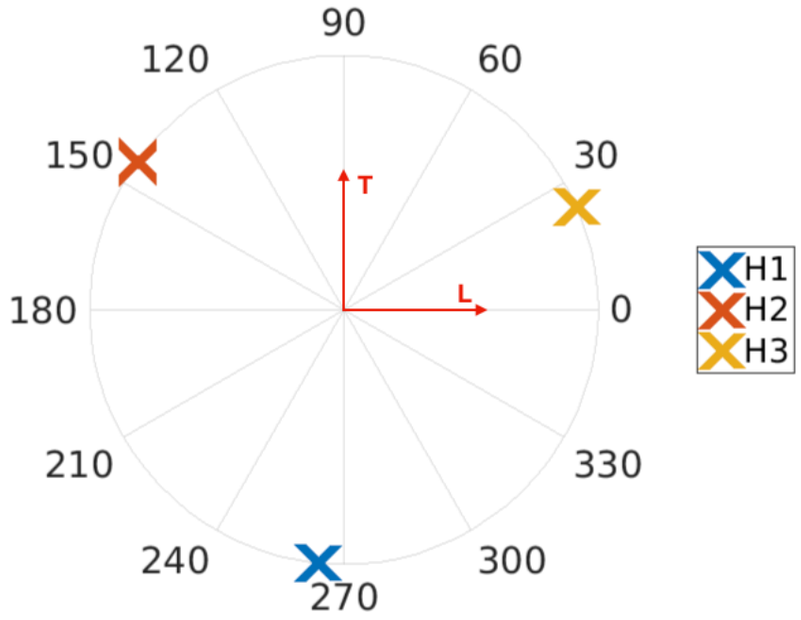

IP LVDT arrangement: Y-Front
90
120
60
150
30
L
T
180
0
210
330
240
300
270
H1
H2
H3


IP LVDT arrangement: X-Front
90
120
60
150
30
T
L
180
0
210
330
240
300
270
H1
H2
H3


IP LVDT arrangement: X-End
90
120
60
150
30
L
180
0
210
T
330
240
300
270
H1
H2
H3

X-arm

IP LVDT arrangement: X-Front

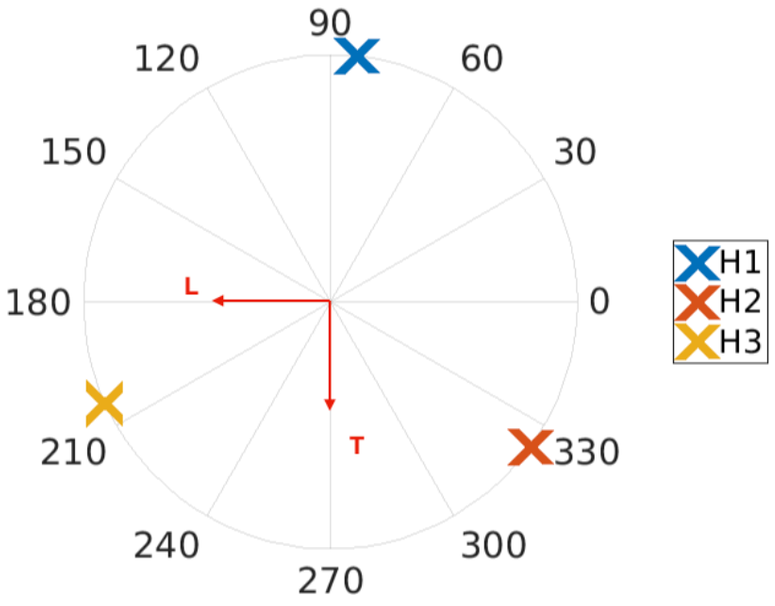


ITMX:geometrical sensing matrix

$$\begin{pmatrix} L \\ T \\ Y \end{pmatrix} = \begin{pmatrix} -sin(\alpha_1) & cos(\alpha_1) & R \\ -sin(\alpha_2) & cos(\alpha_2) & R \\ -sin(\alpha_3) & \cos(\alpha_3) & R \end{pmatrix}^{-1} . \begin{pmatrix} H_1 \\ H_2 \\ H_3 \end{pmatrix}$$

$$\alpha_1 = 264$$
$$\alpha_2 = 144$$
$$\alpha_3 = 24 \quad R = 0.5940m$$

IP LVDT arrangement: X-End

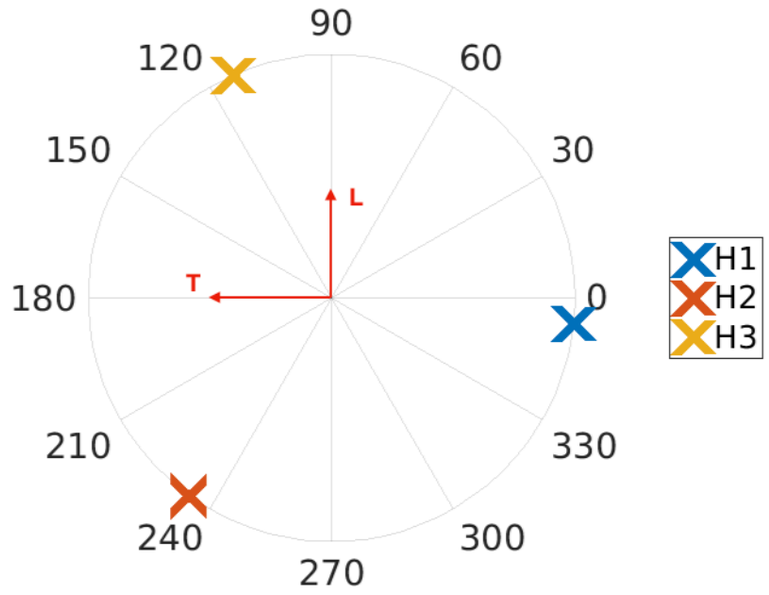


ETMX:geometrical sensing matrix

$$\begin{pmatrix} L \\ T \\ Y \end{pmatrix} = \begin{pmatrix} sin(\alpha_1) & -cos(\alpha_1) & R \\ sin(\alpha_2) & -cos(\alpha_2) & R \\ sin(\alpha_3) & -cos(\alpha_3) & R \end{pmatrix}^{-1} . \begin{pmatrix} H_1 \\ H_2 \\ H_3 \end{pmatrix}$$

$$\alpha_1 = 84$$
$$\alpha_2 = 324$$
$$\alpha_3 = 204 \quad R = 0.5940m$$

IP LVDT arrangement: Y-Front

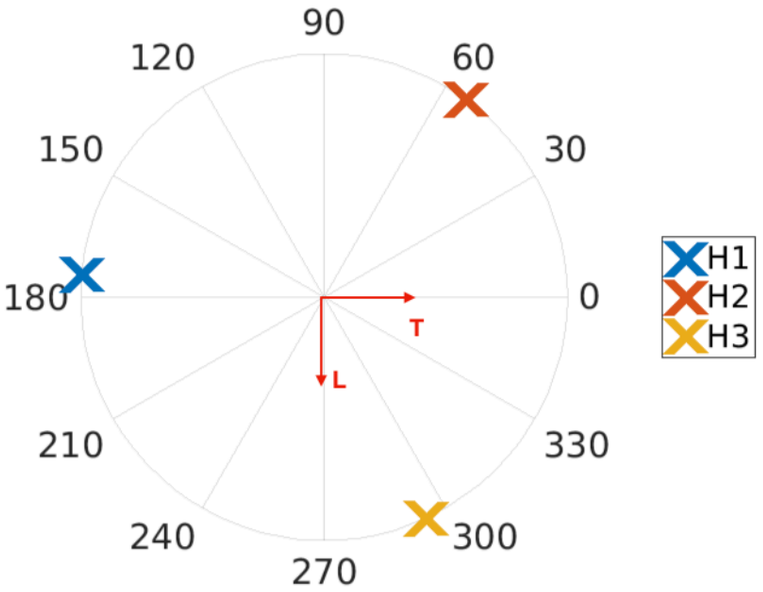


ITMY:geometrical sensing matrix

$$\begin{pmatrix} L \\ T \\ Y \end{pmatrix} = \begin{pmatrix} cos(\alpha_1) & sin(\alpha_1) & R \\ cos(\alpha_2) & sin(\alpha_2) & R \\ cos(\alpha_3) & sin(\alpha_3) & R \end{pmatrix}^{-1} . \begin{pmatrix} H_1 \\ H_2 \\ H_3 \end{pmatrix}$$

$$\alpha_1 = 354$$
$$\alpha_2 = 234$$
$$\alpha_3 = 114 \quad R = 0.5940m$$

IP LVDT arrangement: Y-End



ETMY:geometrical sensing matrix

$$\begin{pmatrix} L \\ T \\ Y \end{pmatrix} = \begin{pmatrix} -cos(\alpha_1) & -sin(\alpha_1) & R \\ -cos(\alpha_2) & -sin(\alpha_2) & R \\ -cos(\alpha_3) & -sin(\alpha_3) & R \end{pmatrix}^{-1} . \begin{pmatrix} H_1 \\ H_2 \\ H_3 \end{pmatrix}$$

$$\alpha_1 = 174$$
$$\alpha_2 = 54$$
$$\alpha_3 = 294 \quad R = 0.5940m$$