$$\xi = \begin{pmatrix} D \\ D' \end{pmatrix}$$

$$\xi(S1)_{BT} \rightarrow \xi(S1)_{RING} = U_1 \xi(S1)_{BT}$$

$$\xi(S2)_{RING} = M_{FWD}(S2|S1)\ \xi(S1)_{RING}$$

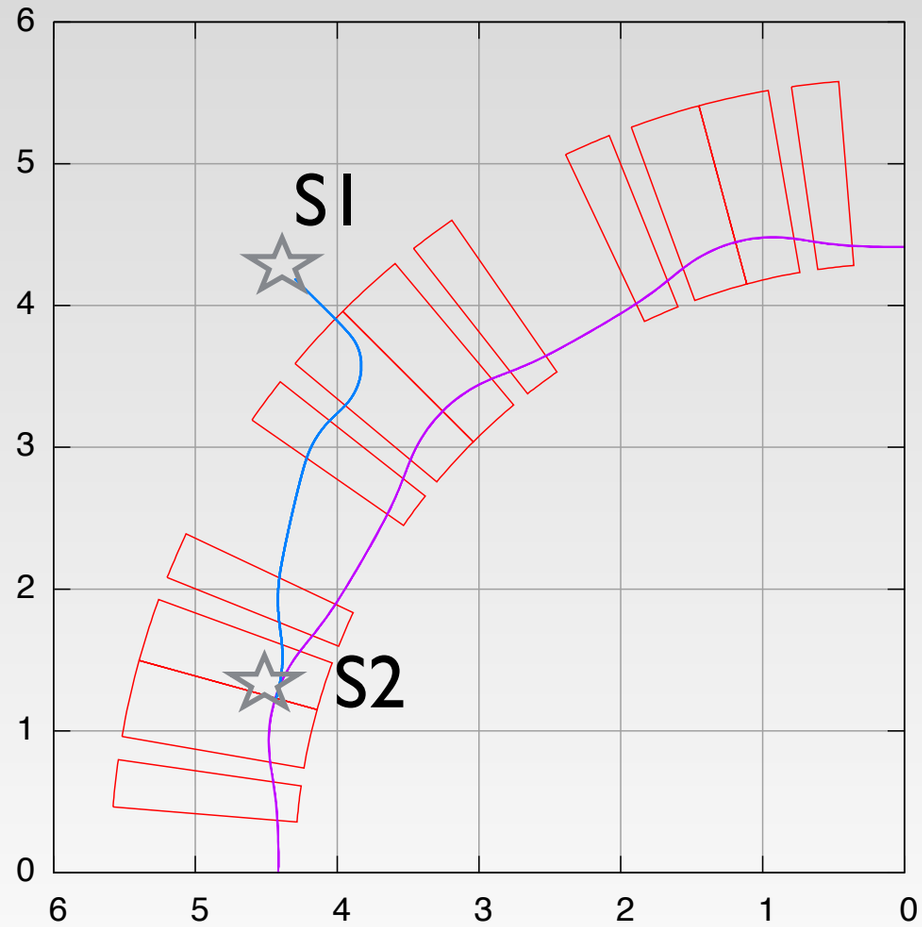
$$M_{FWD}(S2|S1) = U_2^{-1} M_{BWD}^{-1}(S1|S2) U_2$$

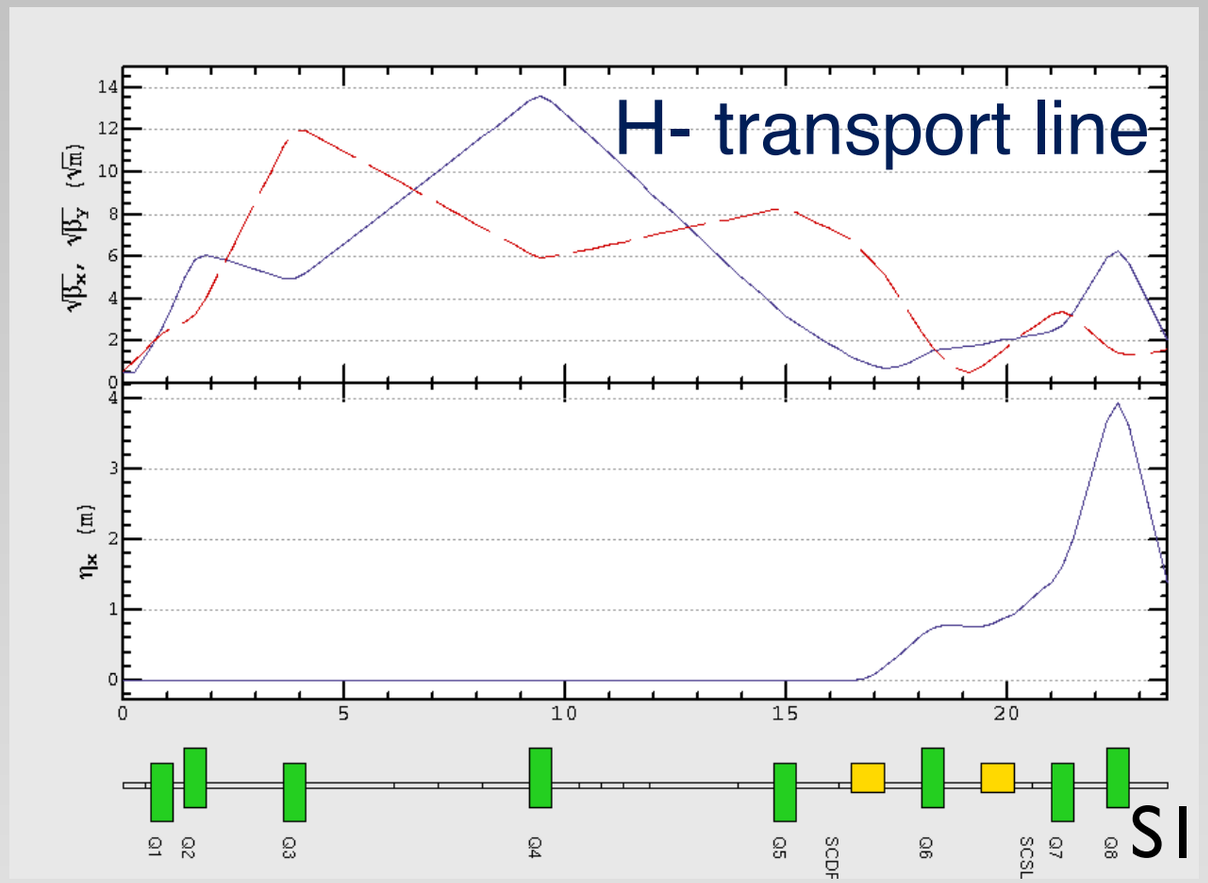
$$U_1 = \begin{pmatrix} -1 & 0 & 0 \\ 0 & -1 & 0 \\ 0 & 0 & 1 \end{pmatrix}$$

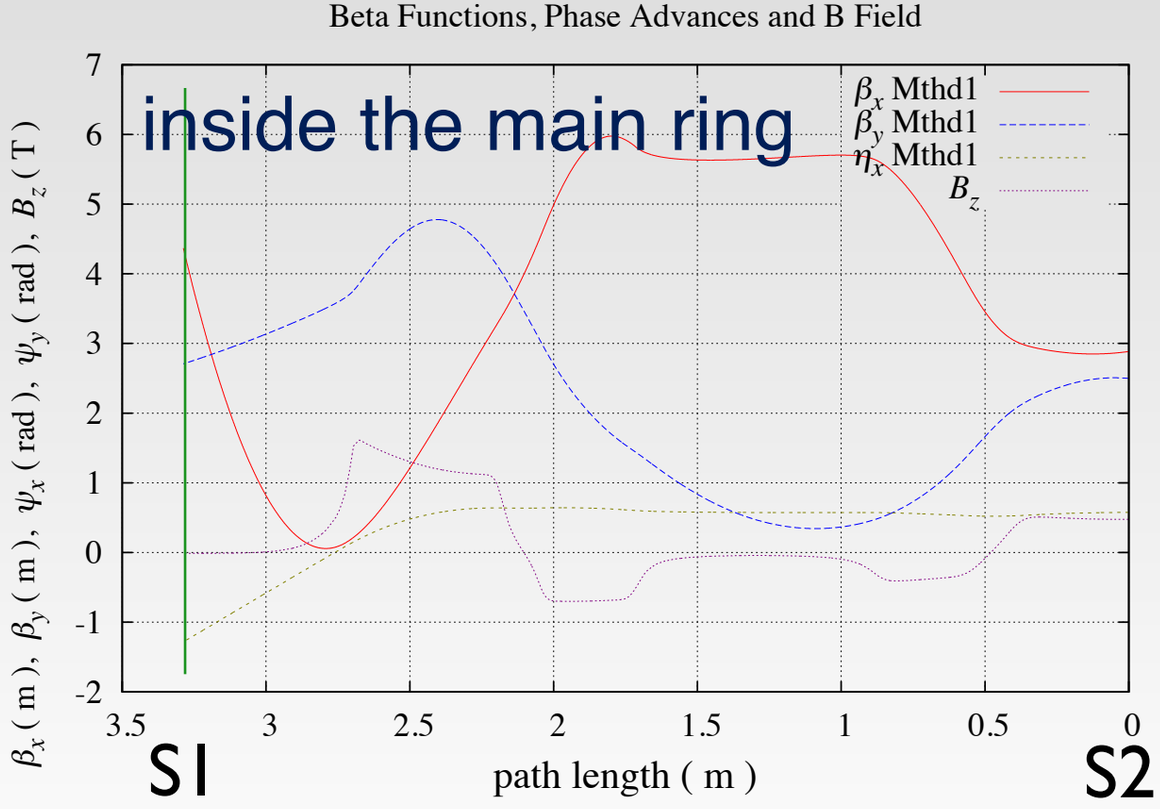
convention of
the sign of curvature

$$U_2 = \begin{pmatrix} 1 & 0 & 0 \\ 0 & -1 & 0 \\ 0 & 0 & 1 \end{pmatrix}$$

flight direction







$\xi(S1)_{BT} = (1.28, -2.44)^{(1)}$

$\xi(S1)_{RING} = U1\xi(S1)_{BT}$
$= (-1.28, 2.44)$

$U_2\xi(S1)_{RING} = (-1.28, -2.44)$

$M_{BWD}^{-1}(S1|S2)\ (-1.28, -2.44)$
$=(0.57, -0.003)$

$\xi(S2)_{RING} = (0.57, 0.003)$

(1) slightly changed from values used in SAD file