**Case I:**
Disk is rotating clockwise and decelerating.

\[
\begin{align*}
\omega &= -\omega_k \\
v_A &= +\omega R^i \\
a_A &= -\alpha R^i
\end{align*}
\]

**Case II:**
Disk is rotating clockwise and accelerating.

\[
\begin{align*}
\omega &= -\omega_k \\
v_A &= +\omega R^i \\
a_A &= -(-\alpha) R^i
\end{align*}
\]

**Case III:**
Disk is rotating counter-clockwise and accelerating.

\[
\begin{align*}
\omega &= +\omega_k \\
v_A &= -\omega R^i \\
a_A &= -\alpha R^i
\end{align*}
\]

**Case IV:**
Disk is rotating counter-clockwise and decelerating.

\[
\begin{align*}
\omega &= +\omega_k \\
v_A &= -\omega R^i \\
a_A &= -(-\alpha) R^i
\end{align*}
\]

**General Rules:**

1a) If disk is rotating clockwise the velocity of its center will be positive, and you will use $-\omega$ in the matrix when calculating the curl.

1b) If disk is rotating counter-clockwise the velocity of its center will be negative, and you will use $+\omega$ in the matrix when calculating the curl.

2) If you define the acceleration of the center to be $-\alpha R^i$, then you should plug in:

- a negative scalar value for $\alpha$ when $\alpha$ is in the clockwise direction, and
- a positive scalar value for $\alpha$ when $\alpha$ is in the counter-clockwise direction.