

$$\begin{array}{c}
\vec{V}_{cp_i} \cdot \hat{n}_i = 0 \\
\frac{D\Gamma}{Dt} = 0
\end{array}
\rightarrow
\left[
\begin{array}{ccccc}
a_{11} & a_{12} & \dots & a_{1n} & a_{1w} \\
a_{21} & a_{22} & \dots & a_{2n} & a_{2w} \\
\vdots & \vdots & \ddots & \vdots & \vdots \\
a_{N1} & a_{N2} & \dots & a_{NN} & a_{Nw} \\
1 & 1 & \dots & 1 & 1
\end{array}
\right]
\begin{bmatrix}
\Gamma_{b_1}(t_k) \\
\Gamma_{b_2}(t_k) \\
\vdots \\
\Gamma_{b_N}(t_k) \\
\Gamma_w t_k
\end{bmatrix}
=
\begin{bmatrix}
RHS_1 \\
RHS_2 \\
\vdots \\
RHS_N \\
\Gamma_{bound}(t_k - 1)
\end{bmatrix}$$

Influence of Bound vortices  $\Gamma_{b_i}$ 
Influence of latest shed wake vortex