$$\begin{pmatrix} \theta \\ \dot{\theta} \\ \phi \\ \dot{\phi} \end{pmatrix}^{+} = \begin{pmatrix} -1 & 0 & 0 & 0 \\ 0 & \cos 2\theta & 0 & 0 \\ -2 & 0 & 0 & 0 \\ 0 & \cos 2\theta\,(1-\cos 2\theta) & 0 & 0 \end{pmatrix}^{-} \begin{pmatrix} \theta \\ \dot{\theta} \\ \phi \\ \dot{\phi} \end{pmatrix}^{-}$$

```python
def heelstrike_event_and_change_defination(variable_list):

    theta, theta_dot, phi, phi_dot = variable_list

    matrix_Change = np.array([[-1, 0,                                  0, 0],
                              [0,  np.cos(2*theta),                    0, 0],
                              [-2,  0,                                 0, 0],
                              [0,  np.cos(2*theta)*(1-np.cos(2*theta)), 0, 0]])

    variable_matrix = np.array([[theta],
                                [theta_dot],
                                [phi],
                                [phi_dot]])

    result_matrix = np.dot(matrix_Change, variable_matrix)

    theta = result_matrix[0, 0]
    theta_dot = result_matrix[1, 0]
    phi = result_matrix[2, 0]
    phi_dot = result_matrix[3, 0]

    return [theta, theta_dot, phi, phi_dot]
```

变量解包$\theta, \dot{\theta}, \phi, \dot{\phi}$

矩阵相乘，覆盖原来的值