

$$\frac{\partial L_{1}}{\partial 100} = \cot 0 = 0.668 - 1 = -0.151$$

$$\frac{\partial L_{2}}{\partial 100} = \cot 0 = 0.051 - 0 = 0.051$$

$$W_{1} = W_{1} - \alpha \frac{\partial L_{2}}{\partial W_{1}} = W_{1} - \alpha \frac{\partial L_{2}}{\partial 100} \frac{\partial L_{2}}{\partial W_{2}} = W_{1} - \alpha \cdot \cos \phi_{0}, \quad || = 0.1 - 0.5 + (-0.5)U_{1} + 0.1 = 0.17$$

$$W_{1} = W_{2} - \alpha \frac{\partial L_{2}}{\partial W_{2}} = W_{1} - \alpha \frac{\partial L_{2}}{\partial 100} \frac{\partial L_{2}}{\partial W_{2}} = W_{2} - \alpha \cdot \cos \phi_{0}, \quad || = 0.1 - 0.5 + (-0.5)U_{2} + 0.1 = 0.17$$

$$W_{2} = W_{3} - \alpha \frac{\partial L_{2}}{\partial W_{3}} = W_{3} - \alpha \frac{\partial L_{2}}{\partial 100} \frac{\partial L_{2}}{\partial W_{3}} = W_{4} - \alpha \cdot \cos \phi_{0}, \quad || = -0.1 - 0.5 + (-0.5)U_{2} + 0.1 = -0.17$$

$$W_{3} = W_{3} - \alpha \frac{\partial L_{2}}{\partial W_{3}} = W_{3} - \alpha \frac{\partial L_{2}}{\partial 100} \frac{\partial L_{2}}{\partial W_{3}} = W_{4} - \alpha \cdot \cos \phi_{0}, \quad || = -0.1 - 0.5 + 0.5 + (-0.5)U_{2} + 0.17$$

$$W_{4} = W_{4} - \alpha \frac{\partial L_{2}}{\partial W_{3}} = W_{4} - \alpha \frac{\partial L_{2}}{\partial 100} \frac{\partial L_{2}}{\partial W_{3}} = W_{4} - \alpha \cdot \cos \phi_{0}, \quad || = -0.1 - 0.5 + 0.5 + (-0.5)U_{3} + 0.1 = -0.17$$

$$W_{4} = W_{4} - \alpha \frac{\partial L_{2}}{\partial W_{3}} = W_{4} - \alpha \frac{\partial L_{2}}{\partial 100} \frac{\partial L_{2}}{\partial W_{3}} = W_{4} - \alpha \cdot \cos \phi_{0}, \quad || = -0.1 - 0.5 + (-0.5)U_{3} + 0.1 = -0.17$$

$$W_{5} = W_{5} - \alpha \frac{\partial L_{2}}{\partial W_{5}} = W_{5} - \alpha \frac{\partial L_{2}}{\partial W_{5}} = W_{5} - \alpha \cdot \cos \phi_{0}, \quad || = -0.1 - 0.5 + (-0.5)U_{3} + \alpha \cdot U_{5} = -0.17$$

$$W_{5} = W_{5} - \alpha \frac{\partial L_{2}}{\partial W_{5}} = W_{5} - \alpha \frac{\partial L_{2}}{\partial W_{5}} = W_{5} - \alpha \cdot \cos \phi_{0}, \quad || = -0.1 - 0.5 + (-0.5)U_{5} + \alpha \cdot U_{5} = -0.17$$

$$W_{7} = W_{7} - \alpha \frac{\partial L_{2}}{\partial W_{5}} = W_{7} - \alpha \frac{\partial L_{2}}{\partial W_{5}} = W_{7} - \alpha \cdot \cos \phi_{0}, \quad || = -0.1 - 0.5 + (-0.5)U_{7} + \alpha \cdot U_{7} = -0.17$$

$$W_{7} = W_{7} - \alpha \frac{\partial L_{2}}{\partial W_{5}} = W_{7} - \alpha \frac{\partial L_{2}}{\partial W_{5}} = W_{7} - \alpha \cdot \cos \phi_{0}, \quad || = -0.1 - 0.5 + (-0.5)U_{7} + \alpha \cdot U_{7} = -0.17$$

$$W_{7} = W_{7} - \alpha \cdot U_{7} + \omega \cdot U_{7} = \omega \cdot U_{7} - \omega \cdot U_{7} = \omega \cdot U_{7$$