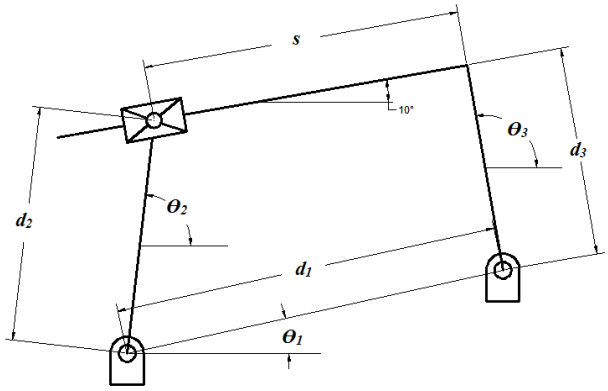
Theory of machinery

Position analysis

Exercise #1 : inverted slider mechanism

Find Θ_3 and s for the inverted slider mechanism shown in figure. Assume d_1, d_2, d_3 and Θ_1 are given data and Θ_2 is input



Theory of machinery

Position analysis

Exercise #1 : 6 bar mechanism

Analyze the 6-bar mechanism shown in figure If

- Θ_1, Θ_7, α, d_1, d_2, d_3, d_4, d_5, d_6, d_7 and h are known
- Θ_2 is input
- Θ_3, Θ_4, Θ_5 and Θ_6 are unknowns

Hint: loop closure equations are:

- $d_2U_{\theta 2} + d_3U_{\theta 3} = d_7U_{\theta 7} + d_4U_{\theta 4}$
- $d_2U_{\theta 2} + hU_{\alpha+\theta 3} = d_5U_{\theta 5} + d_6U_{\theta 6} + d_7U_{\theta 7}$