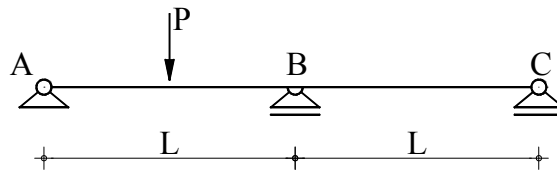
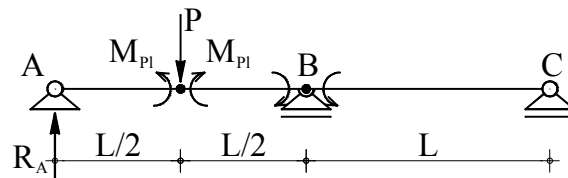


4.1 Za sustav prikazan na crtežu odredite mjerodavne sile po teoriji plastičnosti.



Plastična ravnoteža sustava:



Uvjet za moment plastičnosti u točki ispod sile P

$$R_A \cdot \frac{L}{2} = M_{pl} \quad (1)$$

Uvjet za moment plastičnosti u točki B

$$R_A \cdot L - M_{pl} + M_{pl} + M_{pl} - P \cdot \frac{L}{2} = 0 \quad (2)$$

Kad uvrstimo jednađbu (1) u jednađbu (2) dobivamo:

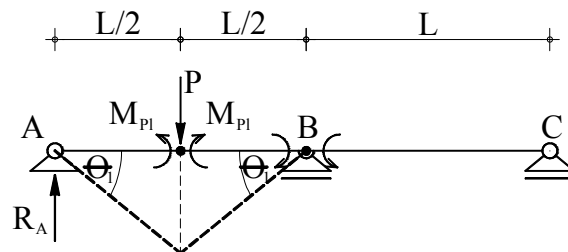
$$\frac{2}{L} M_{pl} \cdot L + M_{pl} - P \cdot \frac{L}{2} = 0$$

$$2M_{pl} \cdot L + M_{pl} - P \cdot \frac{L}{2} = 0$$

$$3M_{pl} = P \cdot \frac{L}{2}$$

$$M_{pl} = P \cdot \frac{L}{6}$$

Kinematski princip /princip virtualnih radova/



$$P \cdot \Theta_1 \cdot \frac{L}{2} - 3M_{pl} \cdot \Theta_1 = 0$$

$$3M_{pl} = P \cdot \frac{L}{2}$$

$$M_{pl} = P \cdot \frac{L}{6}$$