L

v_B

θ

u_B

B

T

member assumed
to be in tension

v_A

u_A

A

T

B Δ_B

Δ

v

θ

u

Δ_A

A

$\Delta_A = u_A \cos\theta + v_A \sin\theta$ $\Delta_B = u_B \cos\theta + v_B \sin\theta$

extension of member = $\dfrac{TL}{EA}$

E = modulus of elasticity

A = cross-sectional area

= displacement of joint B relative to joint A

= $\Delta_B - \Delta_A$

Nodal displacements of a pin-jointed member