

1. Benois - Seilenschwingungstheorie

$$f = \frac{1}{D \cdot L} \sqrt{\frac{F}{m \rho}}$$

$$f = \frac{1}{D} \cdot \frac{1}{L} \cdot \sqrt{F} \cdot \frac{1}{\sqrt{m \rho}}$$

$$f = \underbrace{\frac{1}{L} \cdot \frac{1}{\sqrt{m \rho}}}_{\text{konst.}} \cdot \frac{1}{D} \cdot \sqrt{F}$$

$$f \sim \frac{\sqrt{F}}{D} \quad , \quad f = \text{konst.}$$

$$F \sim D$$

$$F \sim D^2$$

2. Benois

$$G = \frac{F}{\left(\frac{D}{2}\right)^2 \cdot \pi} = \frac{4F}{D^2 \cdot \pi} = \frac{4}{\pi} \cdot \underbrace{\frac{F}{D^2}}_{\text{konst.}} = \text{konst.}$$