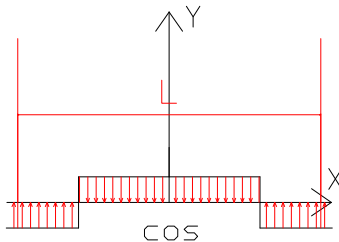


## POLURAVAN

-opterećenje(periodicno) razvijamo u **sin** ili **cos** red sa periodom L.

-**parno** opterećenje:

$$p(x) = \frac{a_0}{2} + \sum_{n=1}^{\infty} a_n \cos \frac{np\pi x}{a}$$



$$a_0 = \frac{4}{L} \int_0^{L/2} p(x) dx$$

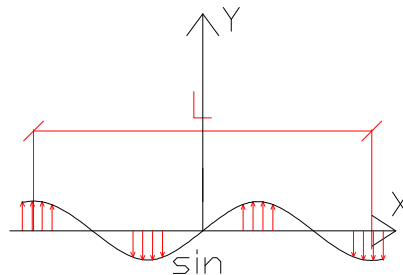
$$a_n = \frac{4}{L} \int_0^{L/2} p(x) \cos \frac{np\pi x}{a} dx$$

naponska f-ja:

$$F = \frac{A_o}{2} x^2 + \sum_{n=1}^{\infty} Y_n(y) \cos \frac{np\pi x}{a}$$

-**neparno** opterećenje

$$p(x) = \sum_{n=1}^{\infty} b_n \sin \frac{np\pi x}{a}$$



$$b_n = \frac{4}{L} \int_0^{L/2} p(x) \sin \frac{np\pi x}{a} dx$$

naponska f-ja:

$$F = \sum_{n=1}^{\infty} Y_n(y) \sin \frac{np\pi x}{a}$$

$$Y_n(y) = \left( A_n + \frac{np\pi}{a} B_n \right) e^{-\frac{np\pi y}{a}} + \left( C_n + \frac{np\pi}{a} D_n \right) e^{\frac{np\pi y}{a}}$$

Cn i Dn=0 za poluravan

GRANICNE USLOVE POSTAVLJAMO PO SILAMA:

$$N_x = \frac{d^2 F}{dy^2}; N_y = \frac{d^2 F}{dx^2}; N_{xy} = -\frac{d^2 F}{dxdy};$$

