NAVIER-OVO RESENJE

$$w(x,y)=\sum_{m=1}^{\infty}\sum_{n=1}^{\infty} Amn\cdot\sin(\frac{mpx}{a})\sin(\frac{npy}{b})$$

$$\mathrm{Amn}\,\frac{\mathrm{Zmn}}{\mathrm{K}\pi^4\left(\frac{\mathrm{n}^2}{\mathrm{b}^2}+\frac{\mathrm{m}^2}{\mathrm{a}^2}\right)^2}$$

$$\mathrm{Zmn} := \frac{4}{\mathrm{a}\cdot\mathrm{b}}\left(\int_0^{\mathrm{a}}\int_0^{\mathrm{b}} \mathrm{Z(x,y)}\sin\left(\frac{\mathrm{m}\pi\mathrm{x}}{\mathrm{a}}\right)\cdot\sin\left(\frac{\mathrm{n}\pi\mathrm{y}}{\mathrm{b}}\right)\mathrm{dx}\,\mathrm{dy}\right)$$

MORIS-LEVY

$W=W_1+W_0$

$$Yn(y)=\left(An+\frac{npy}{a}Bn\right)ch\frac{npy}{a}+\left(Cn+\frac{npy}{a}Dn\right)sh\frac{npy}{a}$$

$$W_1=\sum_{n=1}^{\infty}Yn(y)\cdot\sin\frac{npx}{a}$$

$$Wo=\sum_{n=1}^{\infty}Won\cdot\sin\frac{npx}{a}$$

$$Won=\frac{Zn\cdot a^4}{Kn^4p^{\,4}}$$

$$Zn=\frac{2}{a}\cdot\int_0^a Z(x)\sin\frac{npx}{a}dx$$

$$W(x,y)=W0+W1=$$

$$\sum_{n=1}^{\infty}\left(\frac{Zn\cdot a^4}{Kn^4p^{\,4}}+\left(An+\frac{npy}{a}Bn\right)ch\frac{npy}{a}+\left(Cn+\frac{npy}{a}Dn\right)sh\frac{npy}{a}\right)\cdot\sin\frac{npx}{a}$$

- simetricno opterecenje An i Dn
- antimetricno opterecenje Bn i Cn (g.u. Y=+-b/2)

PLOCA OSLONJENA NA GREDU

$$Y=(1)w^{p}=w^{g}\Rightarrow\frac{dWpl}{dx^{4}}=\frac{dWgr}{dx^{4}}////(2)\frac{dWpl}{dy}=jg\Rightarrow\frac{d^{2}Wpl}{dxdy}=\frac{djg}{dx}=q=\frac{Mt}{GIt}$$

$$(1)\Rightarrow\frac{d^{4}Wpl}{dx^{4}}=\frac{\overline{Ty}}{EIg}=\frac{-K}{EIg}\left(\frac{d^{3}Wpl}{dy^{3}}+(2-u)\cdot\frac{d^{3}Wpl}{dx^{2}dy}\right)$$

$$(2)\Rightarrow\frac{d}{dx}\left(GIt\cdot\frac{d^{2}Wpl}{dxdy}\right)=\frac{dMt}{dx}=My=-K\left(\frac{d^{2}Wpl}{dy^{2}}+u\frac{d^{2}Wpl}{dx^{2}}\right)$$

SILE U PRESEKU

$$Mx=-K\left(\frac{d^{2}W}{dx^{2}}+u\frac{d^{2}W}{dy^{2}}\right)$$

$$My=-K\left(\frac{d^{2}W}{dy^{2}}+u\frac{d^{2}W}{dx^{2}}\right)$$

$$Mxy=-K(1-u)\frac{d^{2}W}{dxdy}$$

$$\overline{Tx}=-K\left[\frac{d^{3}W}{dx^{3}}+(2-u)\frac{d^{3}W}{dxdy^{2}}\right]$$

$$\overline{Ty}=-K\left[\frac{d^{3}W}{dy^{3}}+(2-u)\frac{d^{3}W}{dx^{2}dy}\right]$$