

# MATEMATIKA U ARHITEKTURI 2

Arhitektonski fakultet Univerziteta u Beogradu; Prof. dr Ljiljana Petruševski; Student Milica Dukić 4/2011

## PROCES DOBIJANJA POVRŠI U PROSTORU

$$\begin{aligned}x(u,v) &= 10 \cdot u \\y(u,v) &= 3.5 \cdot \cos(v) - 2 \cdot \cos(u) \cdot \sin(u) \\z(u,v) &= 4 \cdot \sin(u) \cdot \cos(v)\end{aligned}$$

$$\begin{aligned}\text{scaleX: } 1 \\ \text{scaleY: } 10 \\ \text{scaleZ: } 10\end{aligned}$$

\*Promena opcije scale po osama (formula ostaje nepromenjena):

\*Fiksne vrednosti opcije scale, promena u formuli:

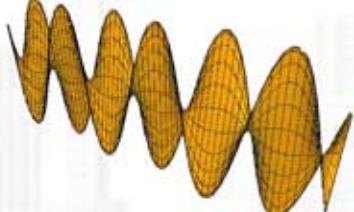
Skaliranje po X-osi:

$$\begin{aligned}\text{scaleX: } 10 \\ \text{scaleY: } 1 \\ \text{scaleZ: } 1\end{aligned}$$



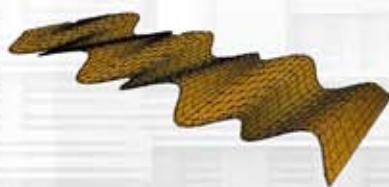
Skaliranje po Y-osi:

$$\begin{aligned}\text{scaleX: } 1 \\ \text{scaleY: } 10 \\ \text{scaleZ: } 1\end{aligned}$$



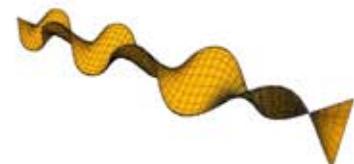
Skaliranje po Z-osi:

$$\begin{aligned}\text{scaleX: } 1 \\ \text{scaleY: } 1 \\ \text{scaleZ: } 10\end{aligned}$$



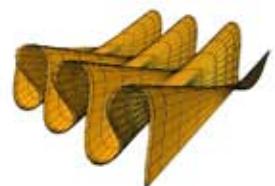
Promena u vrednosti početnog člana ose X:

$$\begin{aligned}x(u,v) &= 30 \cdot u \\y(u,v) &= 3.5 \cdot \cos(v) - 2 \cdot \cos(u) \cdot \sin(u) \\z(u,v) &= 4 \cdot \sin(u) \cdot \cos(v)\end{aligned}$$



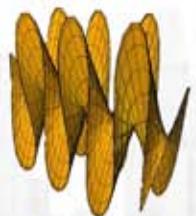
Promena u vrednosti početnog člana ose Y:

$$\begin{aligned}x(u,v) &= 10 \cdot u \\y(u,v) &= 10 \cdot \cos(v) - 2 \cdot \cos(u) \cdot \sin(u) \\z(u,v) &= 4 \cdot \sin(u) \cdot \cos(v)\end{aligned}$$



Promena u vrednosti početnog člana ose Z:

$$\begin{aligned}x(u,v) &= 10 \cdot u \\y(u,v) &= 3.5 \cdot \cos(v) - 2 \cdot \cos(u) \cdot \sin(u) \\z(u,v) &= 10 \cdot \sin(u) \cdot \cos(v)\end{aligned}$$



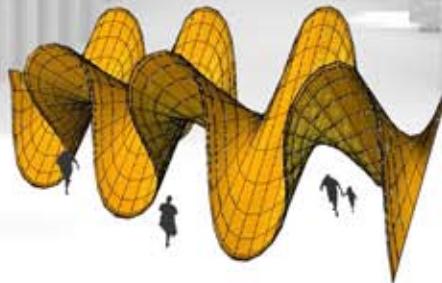
\*Formula odabране površi

$$\begin{aligned}x(u,v) &= 10 \cdot u \\y(u,v) &= 3.5 \cdot \cos(v) - 2 \cdot \cos(u) \cdot \sin(u) \\z(u,v) &= 4 \cdot \sin(u) \cdot \cos(v)\end{aligned}$$

$$\begin{aligned}\text{scaleX: } 1 \\ \text{scaleY: } 10 \\ \text{scaleZ: } 10\end{aligned}$$

$$\begin{aligned}U_{\max} & 10 \\ U_{\min} & -10 \\ U_{\text{dens}} & 70\end{aligned}$$

$$\begin{aligned}V_{\max} & 10 \\ V_{\min} & -10 \\ V_{\text{dens}} & 70\end{aligned}$$



Faculty of Architecture, University of Belgrade; Prof. Ljiljana Petruševski, PhD; Student Milica Dukić 4/2011

e-Learning support Mirjana Devetaković, MSc; Virtual learning environment for the course <http://www.arh.bg.ac.yu/code/navigate.asp?id=2420>

**MATHEMATICS IN ARCHITECTURE 2**