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videjas un efektivas vertibas apreikins

```
%%videjas vertibas apreikins
t = 0:0.1:5;
N = length(t);
```

- ar formulu 3a

```
xvid3a=1/(N-1)*sum(sig(t(1:end-1)))
```

```
xvid3a =

    0.7400
```

- ar formulu 3b

```
xvid3b=1/(N-1)*sum(sig(t(1:end-1)+1))
```

```
xvid3b =

    0.7400
```

- ar formulu 3c

```
h = (t(end)-t(1)) /(N-1)  ;
xvid3c = 1/(N-1)*sum(sig(t(1:end-1)+h/2))
```

```
xvid3c =

    0.7375
```

- ar formulu 4

```
xvid4=1/(N-1)*((sig(t(1))+(sig(t(end)))/2)+(sum(sig(t(2:end-1)))))
```

```
xvid4 =

    0.7400
```

istas videjas vertibas apreikins * sinusoida

```
syms t_sin
A0=0; A = 2.5; T = (1-0)/4; f=1/T;
delay = 1;
y_sin = A0+A*sin(2*pi*f*(t_sin-delay));
int_sin = int(y_sin,t_sin,0,1)
```

```
int_sin =

0
```

*

```
syms t_saw
k = (0-(-0.25))/(3-3.5);
delay = 3;
y_saw = k*(t_saw-delay);
int_saw = int(y_saw,t_saw,3,3.5)
```

```
int_saw =

-1/16
```

*

```
syms t_const
y_const = 2.5;
int_const = int(2.5,t_const,1.5,3)
```

```
int_const =

15/4
```

Liekam vissu kopa

```
ista_vv = 1/5*(int_const+int_saw+int_sin)
```

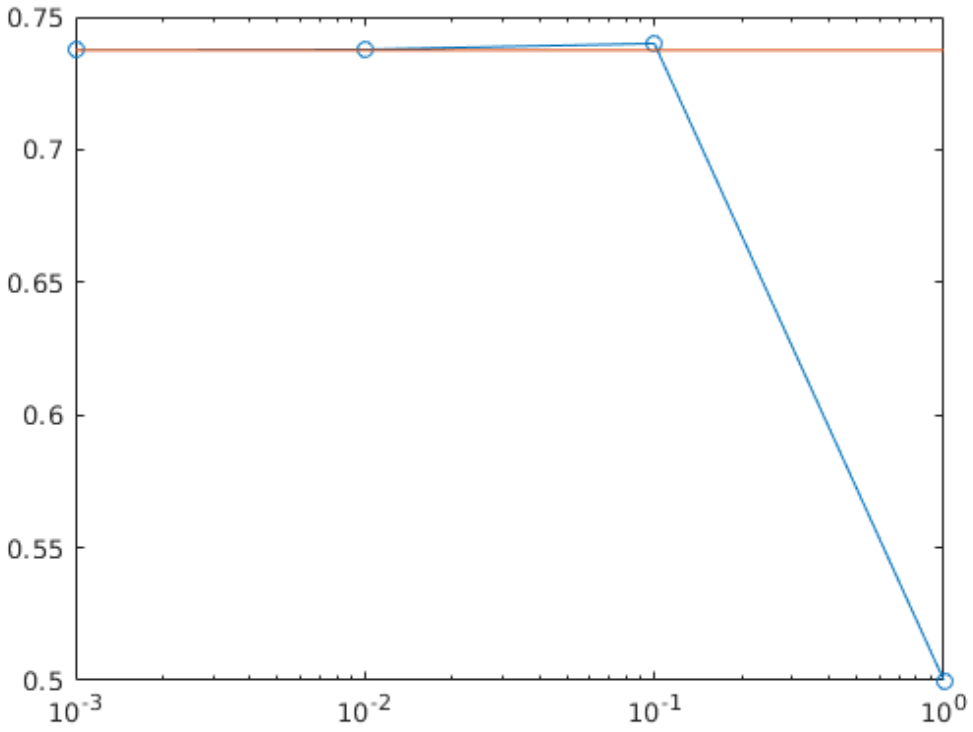
```
ista_vv =

59/80
```

Salidzinasim 3a formulu ar istu videju vertibu

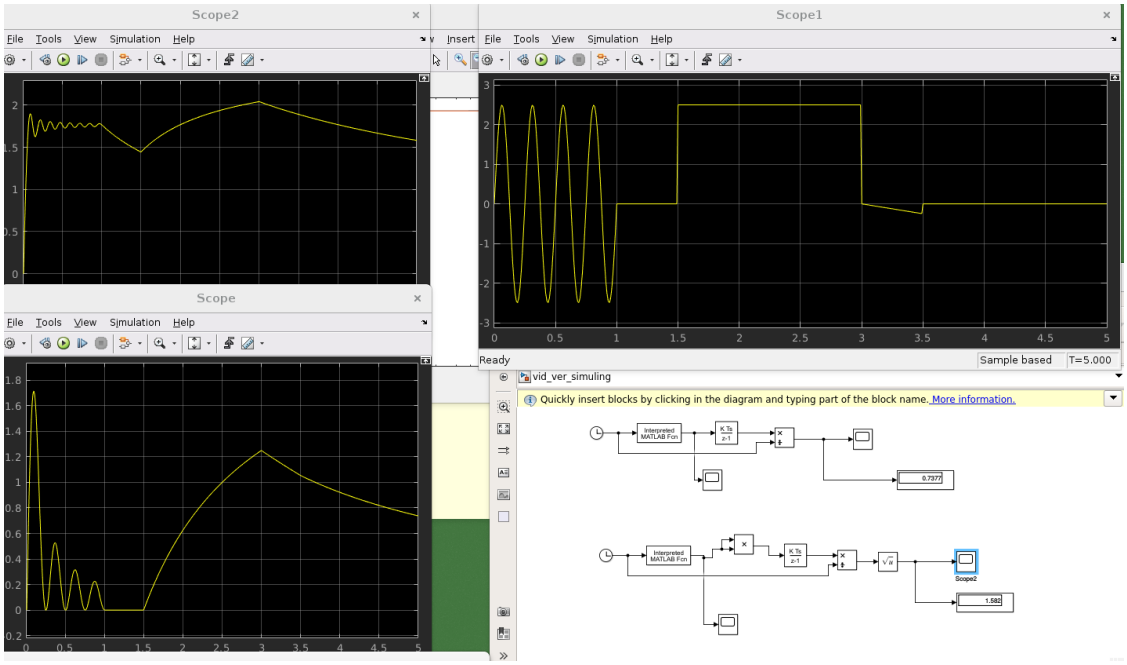
```
dt=[1 0.1 0.01 0.001];
```

```
xvid3am = [];
for dtc = dt
    t =0:dtc:5;
    N = length(t);
    xvid3a = 1/(N-1)*sum(sig(t(1:end-1)))
    xvid3am =[xvid3am;xvid3a]
end
semilogx(dt,xvid3am,'-o',dt,dt*0+ista_vv)
```

```
xvid3a =

    0.5000


xvid3am =

    0.5000


xvid3a =

    0.7400


xvid3am =

    0.5000
    0.7400


xvid3a =

    0.7378


xvid3am =

    0.5000
    0.7400
    0.7378


xvid3a =

    0.7375


xvid3am =

    0.5000
    0.7400
    0.7378
    0.7375
```



Simulink



lai palaist simulink ,vajadzetu definet dt = 0.01

Secinajumi:

Ar matlab programaturu mes iemacijamies apreikinat videju vertibu un efiktivu vertibu ar dazadiem formulam(metodiem),ka ari iemacijamies ar Simulinku modelet funkcijas videju vertibu apreikinasanu.

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