

ONDÖRDÜNCÜ HAFTA

K -BOYUTLU SAYISAL SÜZGEÇLEME Ç N ÖRNEKLER

WAVE> .run b2d-fr

% Compiled module: \$MAIN\$.

veri dosyadan okutulacak (1) - sinama verisi (2) - son (3) >1

dosya no dosya adi

1 bg241.xyz

2 many.xyz

dosya numarasini giriniz >1

toplam veri sayisi 2121

x yonunde____

veri sayisi 101

ornekleme araligi 5.00000

frekans ornekleme araligi 0.00200000

Nyquist frekansi 0.100000

y yonunde____

veri sayisi 21

ornekleme araligi 10.0000

frekans ornekleme araligi 0.00500000

Nyquist frekansi 0.0500000

FREKANS SECICI SUZGECIN TURU

1. Alcak-Gecisli tanjant hiperbolik

2. Band-Gecisli tanjant hiperbolik

3. Yuksek-Gecisli tanjant hiperbolik

4. Band-Durdurucu tanjant hiperbolik

5. Veriyi degistir

suzgec numarasini giriniz >1

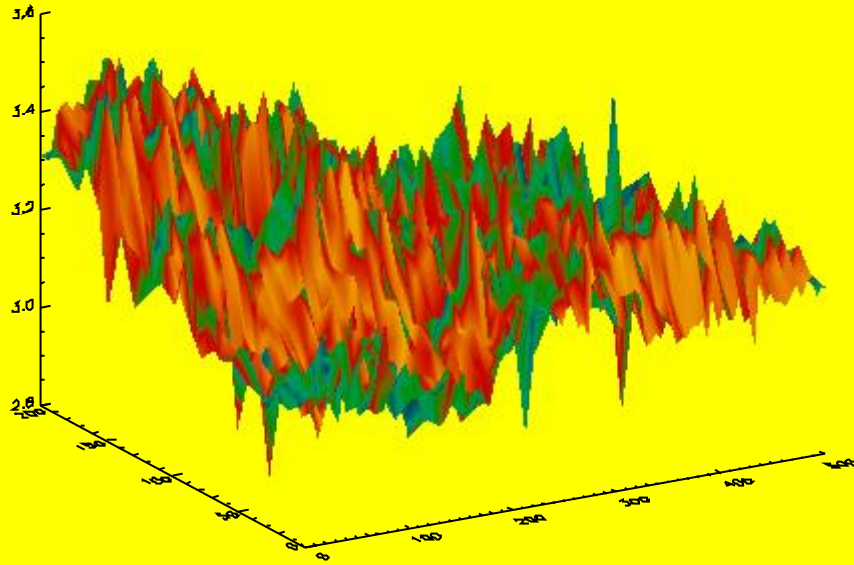
x yonunde

alcak kesme frekansini ve gecis bolgesi yari uzunlugunu giriniz >0.025 0.005

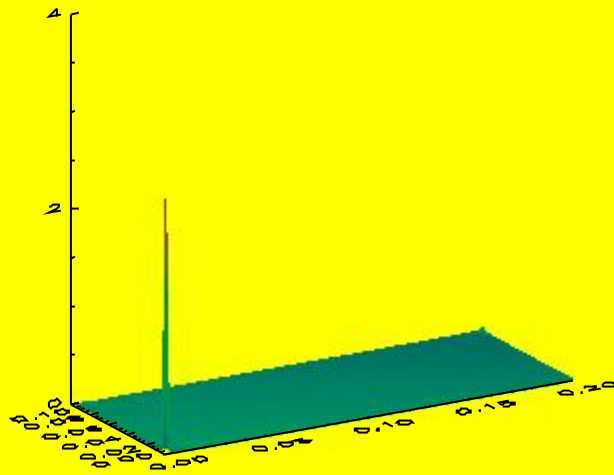
y yonunde

alcak kesme frekansini ve gecis bolgesi yari uzunlugunu giriniz >0.025 0.005

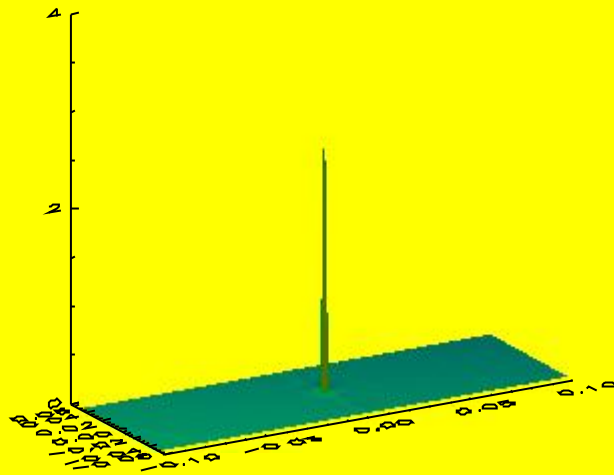
Giris Verisi



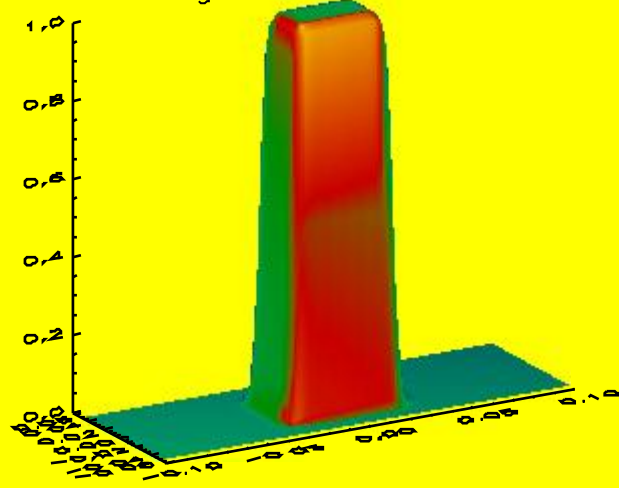
FFT cikisi



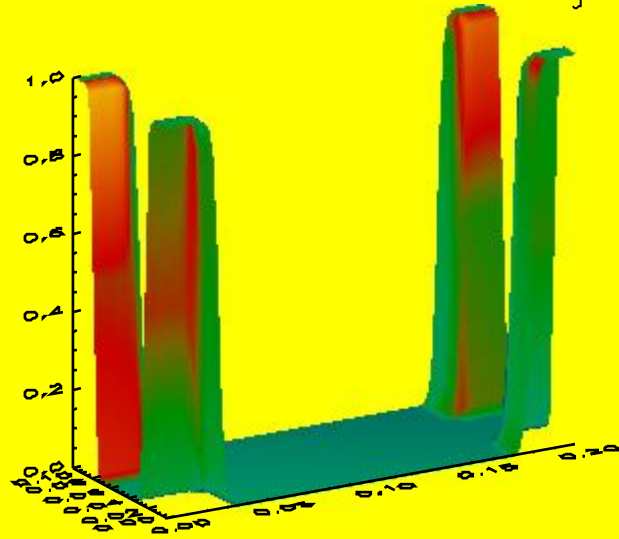
Dogru Frekanslara Kaydirilmis Veri

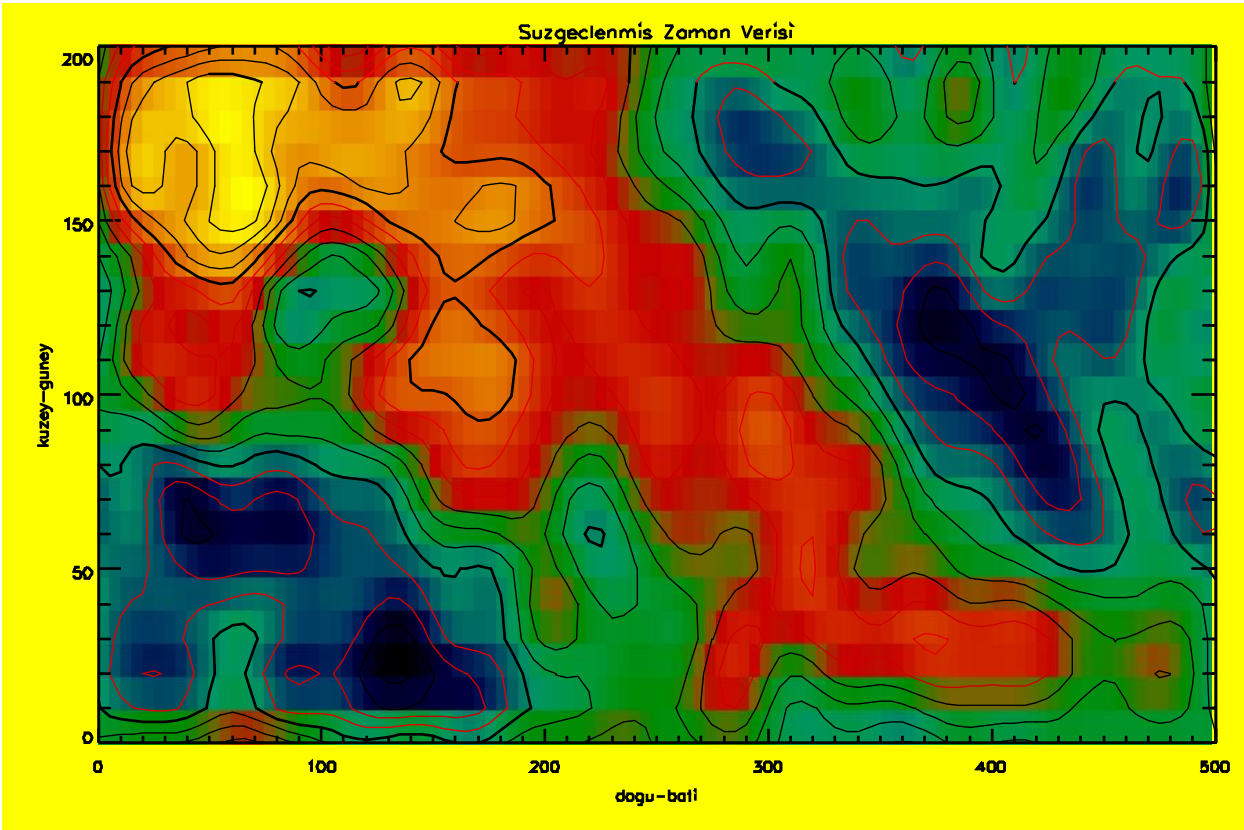
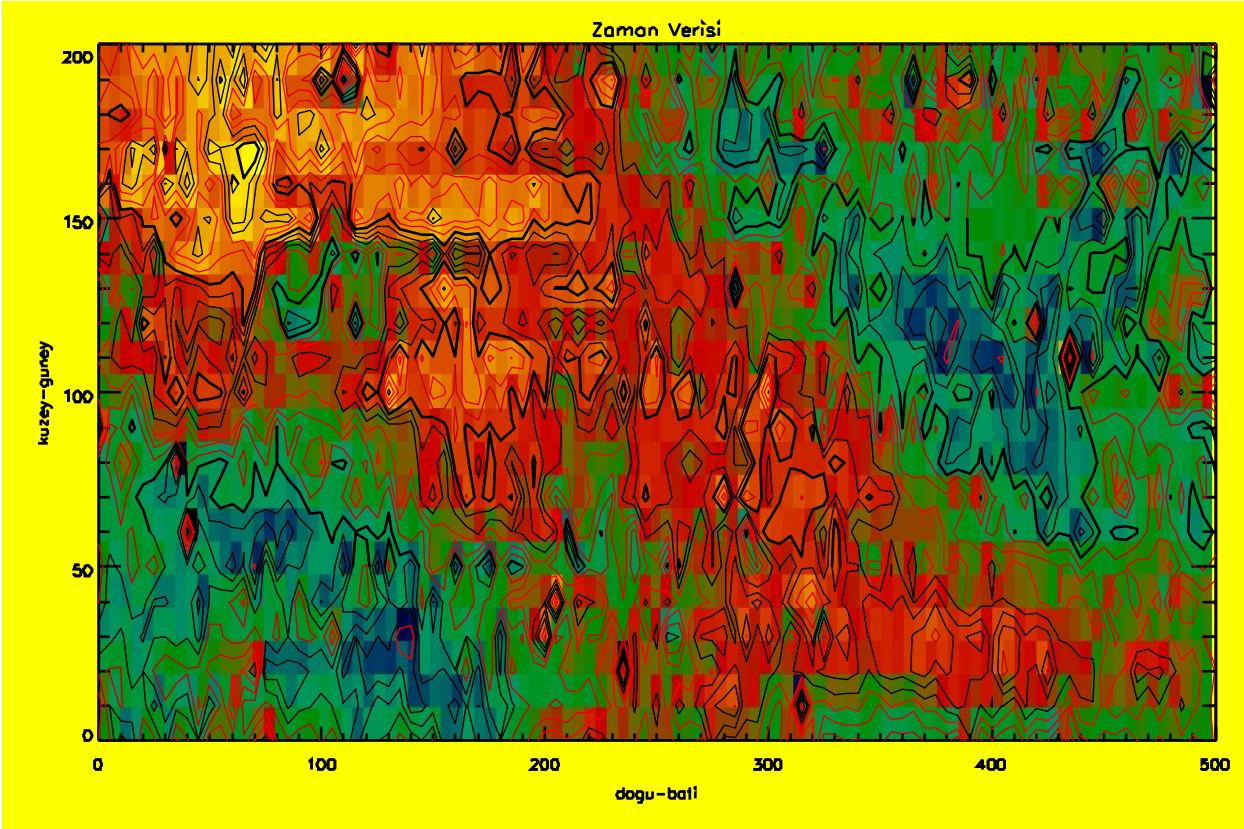


Alcak-Gecisli (tanjant hiperbolik)
Suzgec Belirtkeni



FFT frekanslarında tanimlanmis Suzgec





veri dosyadan okutulacak (1) - sinama verisi (2) - son (3) >2

$$r = \sqrt{x^2 + y^2}$$

$$1. z = \exp(-\text{alfa} * r) * (a * \cos(f1 * r) + b * \sin(f2 * r))$$

$$2. z = \exp(-\text{alfa} * r) * (a * \cos(f1 * x) + b * \sin(f2 * y))$$

$$3. z = \exp(-\text{alfa} * r) * a * \cos(f1 * x) * b * \sin(f2 * y)$$

4. Baslangic

kuramsal verinin numarasini giriniz >1

ornekleme araligini giriniz >0.01

a ve b katsayilarini giriniz >0.5 0.5

sadece sinüzoidal icin alfa=0

alfa katsayisini giriniz >5

veri sayisi 101.000

ornekleme araligi 0.0100000

frekans ornekleme araligi 1.00000

Nyquist frekansi 50.0000

iki adet frekans degeri giriniz >0.1 10

toplam veri sayisi 10201.0

x yonunde _____

veri sayisi 101.000

ornekleme araligi 0.0100000

frekans ornekleme araligi 1.00000

Nyquist frekansi 50.0000

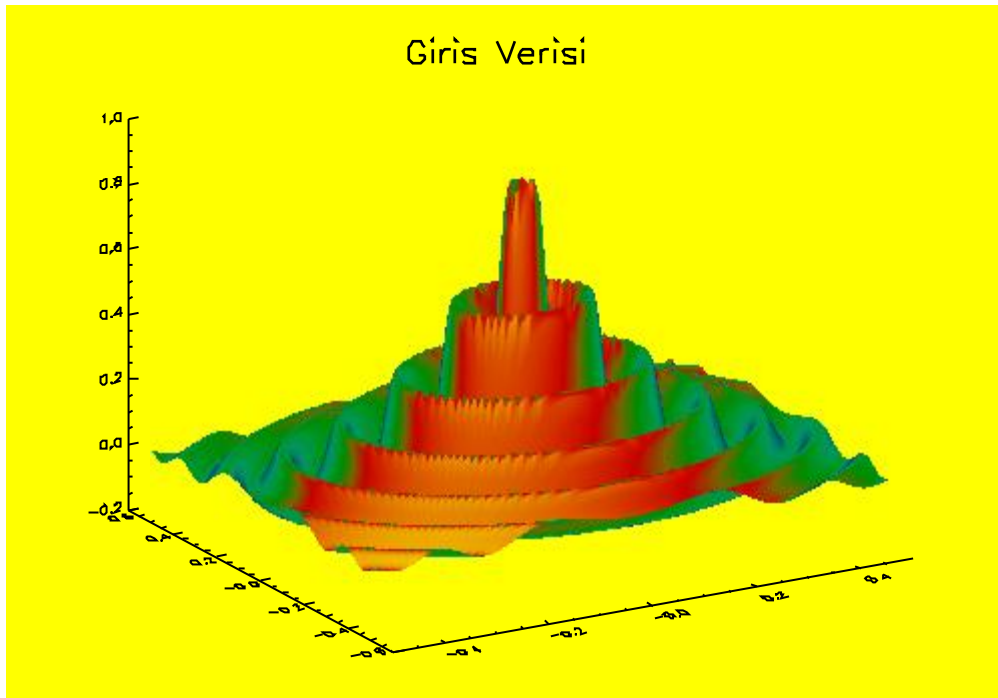
y yonunde _____

veri sayisi 101.000

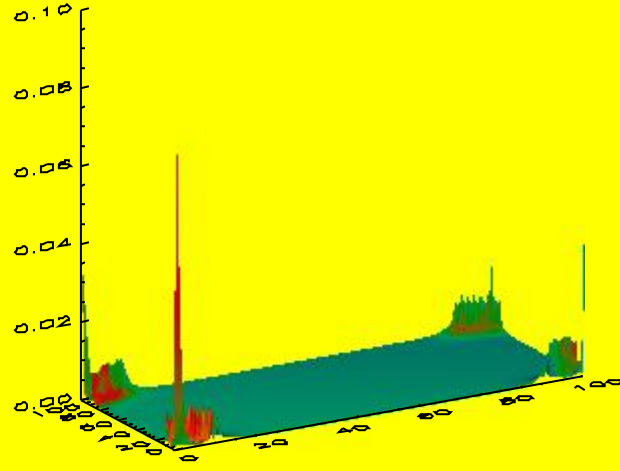
ornekleme araligi 0.0100000

frekans ornekleme araligi 1.00000

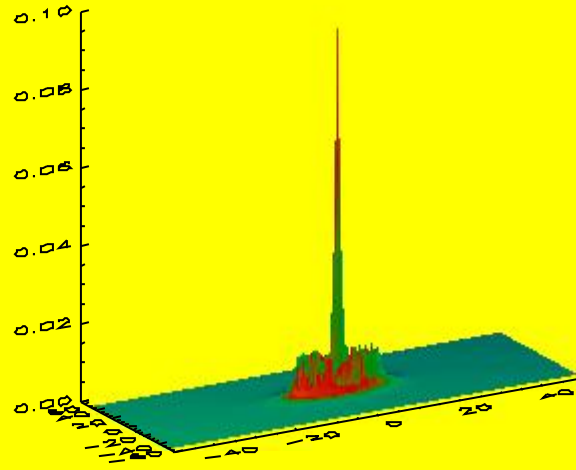
Nyquist frekansi 50.0000



FFT cikisi



Dogru Frekanslara Kaydirilmis Veri



FREKANS SECICI SUZGECIN TURU

1. Alcak-Gecisli tanjant hiperbolik
2. Band-Gecisli tanjant hiperbolik
3. Yuksek-Gecisli tanjant hiperbolik
4. Band-Durdurucu tanjant hiperbolik
5. Veriyi degistir

suzgec numarasini giriniz >1

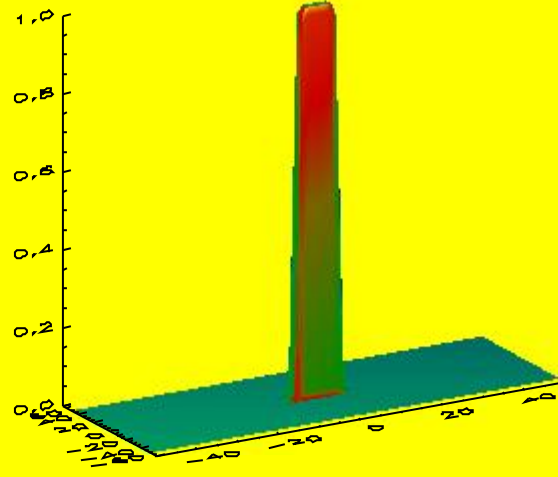
x yonunde

alcak kesme frekansini ve gecis bolgesi yari uzunlugunu giriniz >5 1

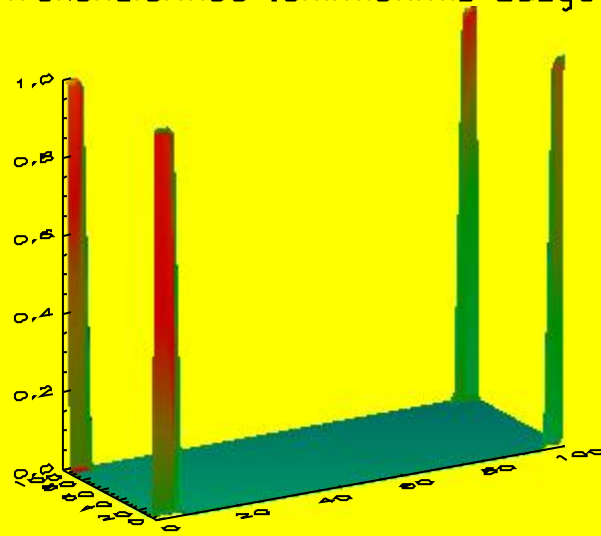
y yonunde

alcak kesme frekansini ve gecis bolgesi yari uzunlugunu giriniz >5 1

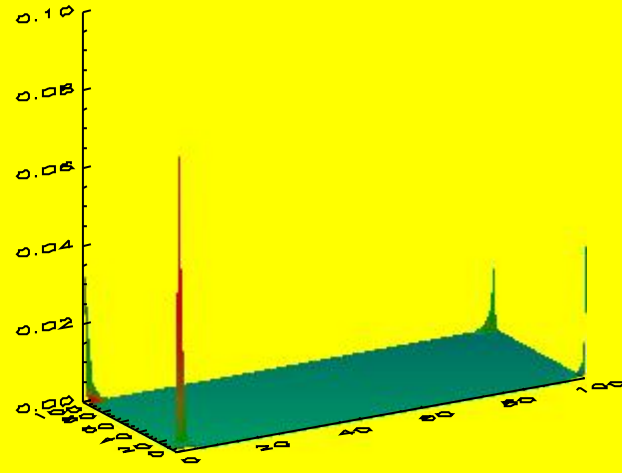
Alcok-Gecisli (tanjant hiperbolik) Suzgeç Belirtkeni



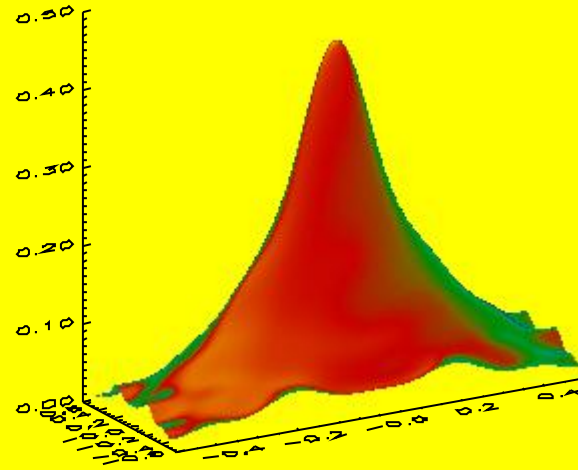
FFT frekanslarında tanımlanmış Suzgeç

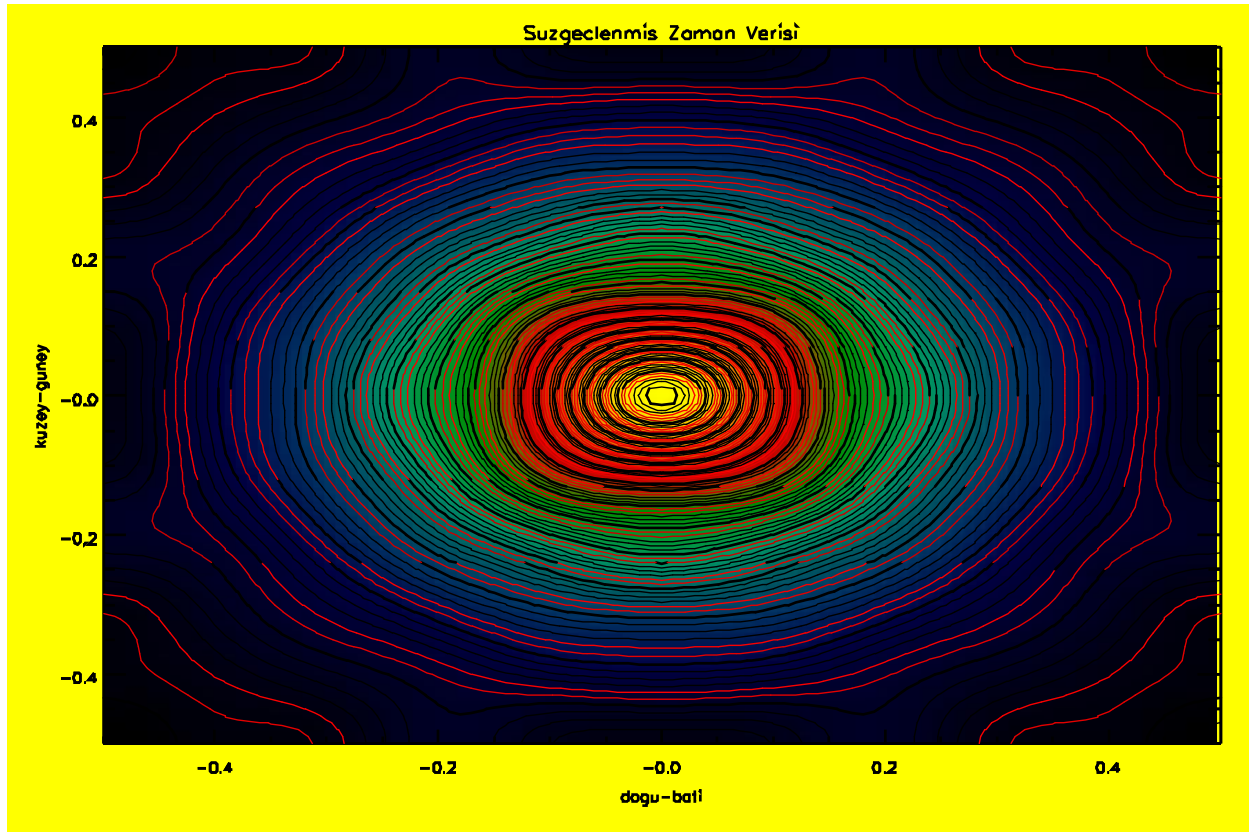
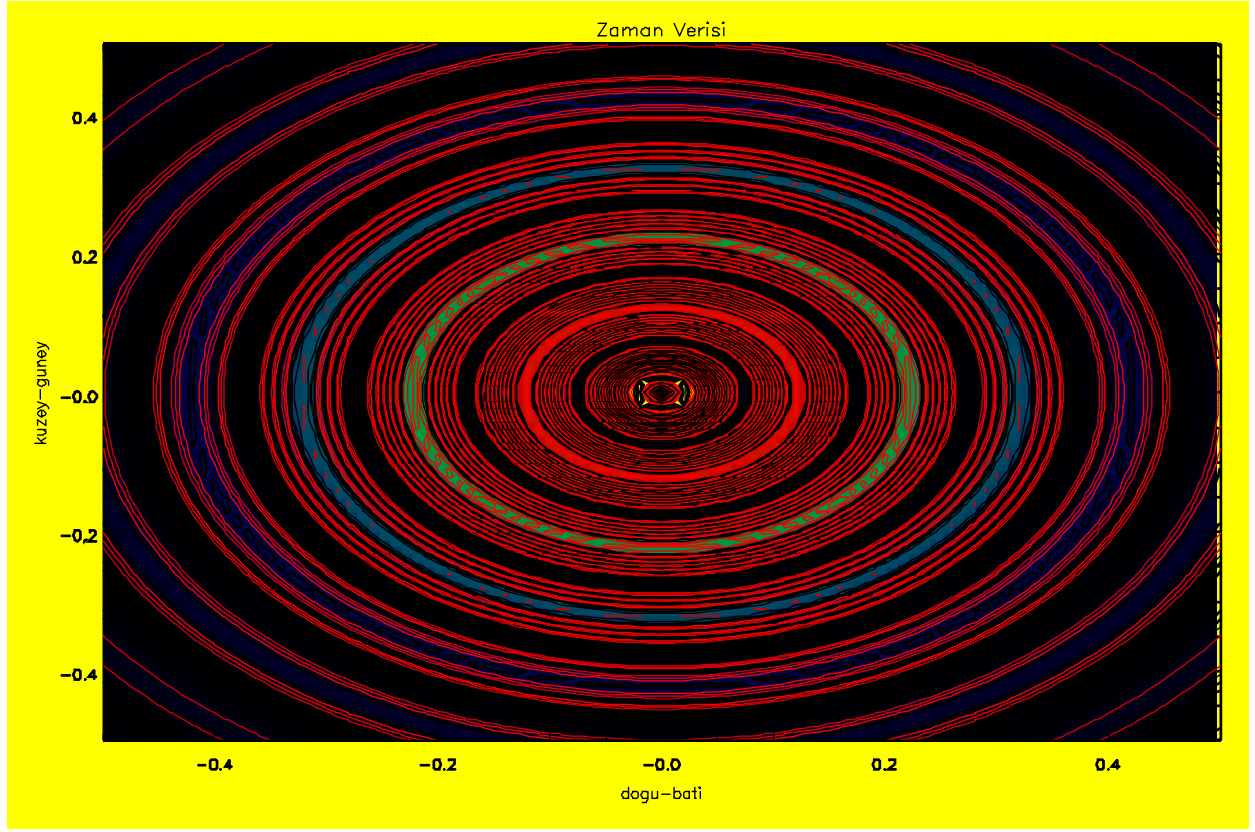


Frekans bölgesinde veri-suzgeç carpımı



Zaman bölgesinde suzgeçlenmiş veri





FREKANS SECICI SUZGECIN TURU

1. Alcak-Gecisli tanjant hiperbolik
 2. Band-Gecisli tanjant hiperbolik
 3. Yuksek-Gecisli tanjant hiperbolik
 4. Band-Durdurucu tanjant hiperbolik
 5. Veriyi degistir
- suzgec numarasini giriniz >2

x yonunde

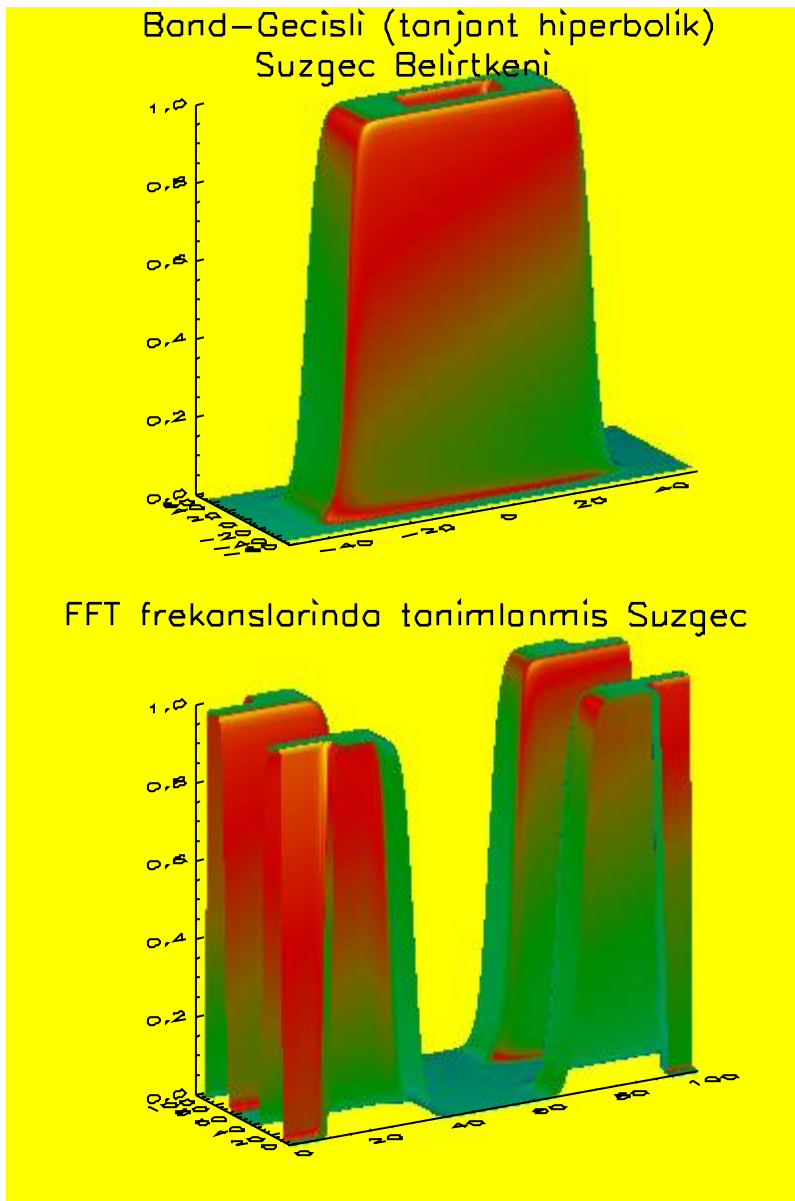
alcak kesme frekansini ve gecis bolgesi yari uzunlugunu giriniz >10 1

yuksek kesme frekansini ve gecis bolgesi yari uzunlugunu giriniz >30 5

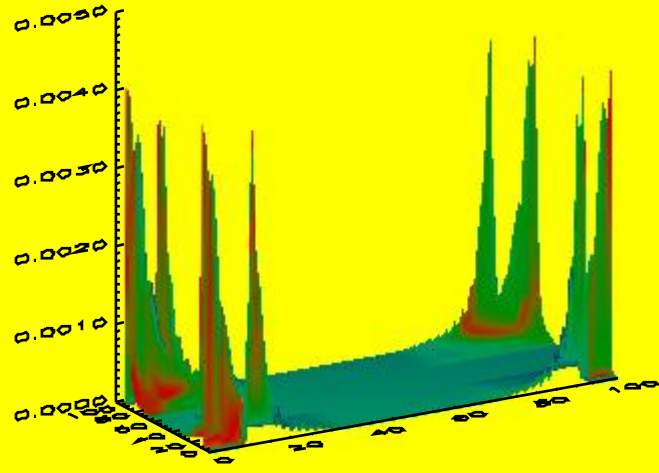
y yonunde

alcak kesme frekansini ve gecis bolgesi yari uzunlugunu giriniz >10 1

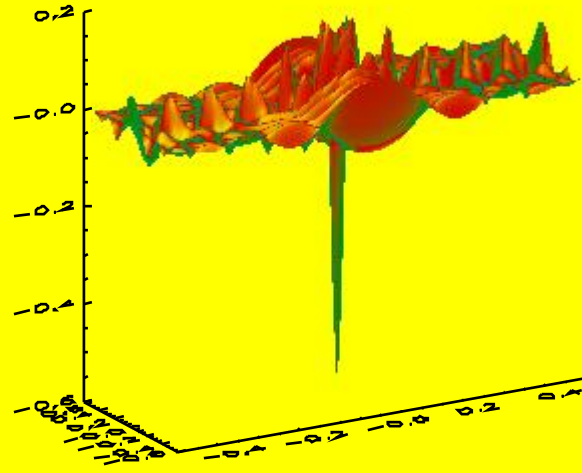
yuksek kesme frekansini ve gecis bolgesi yari uzunlugunu giriniz >30 5

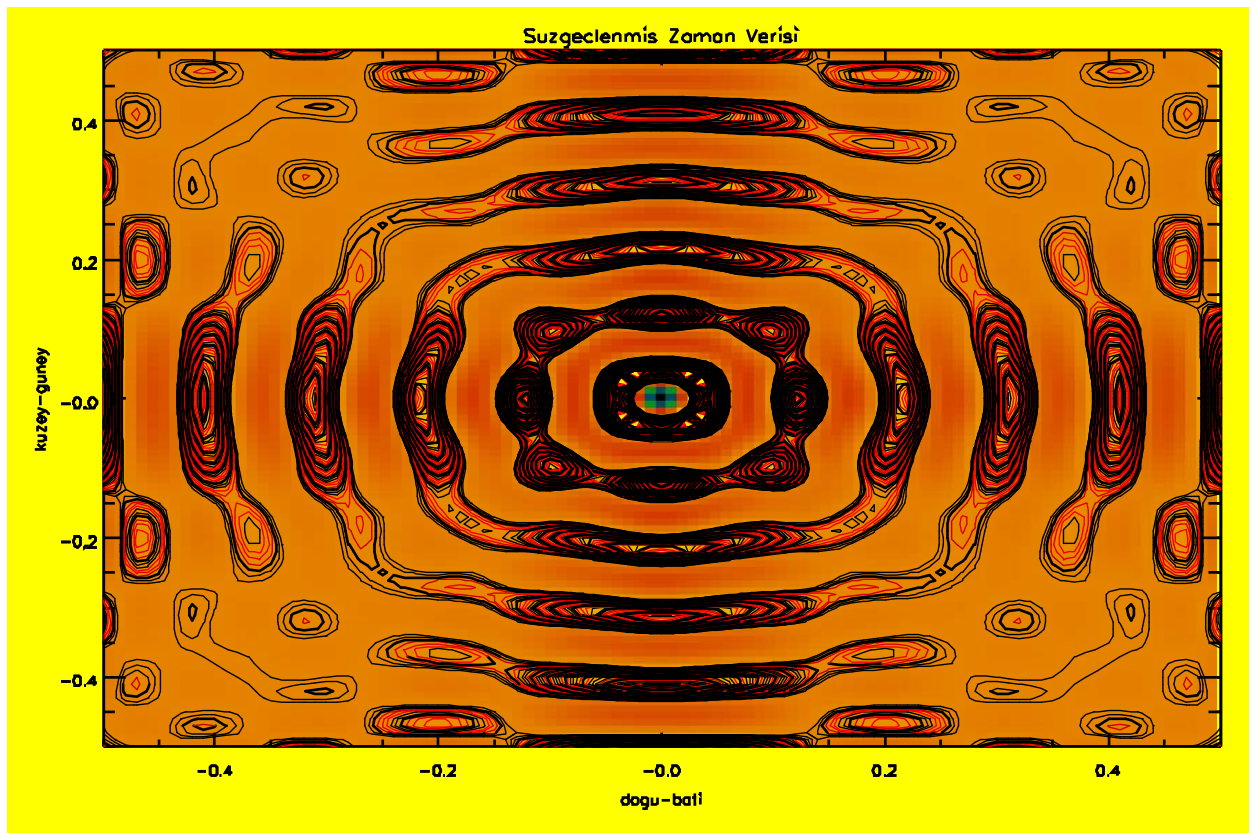
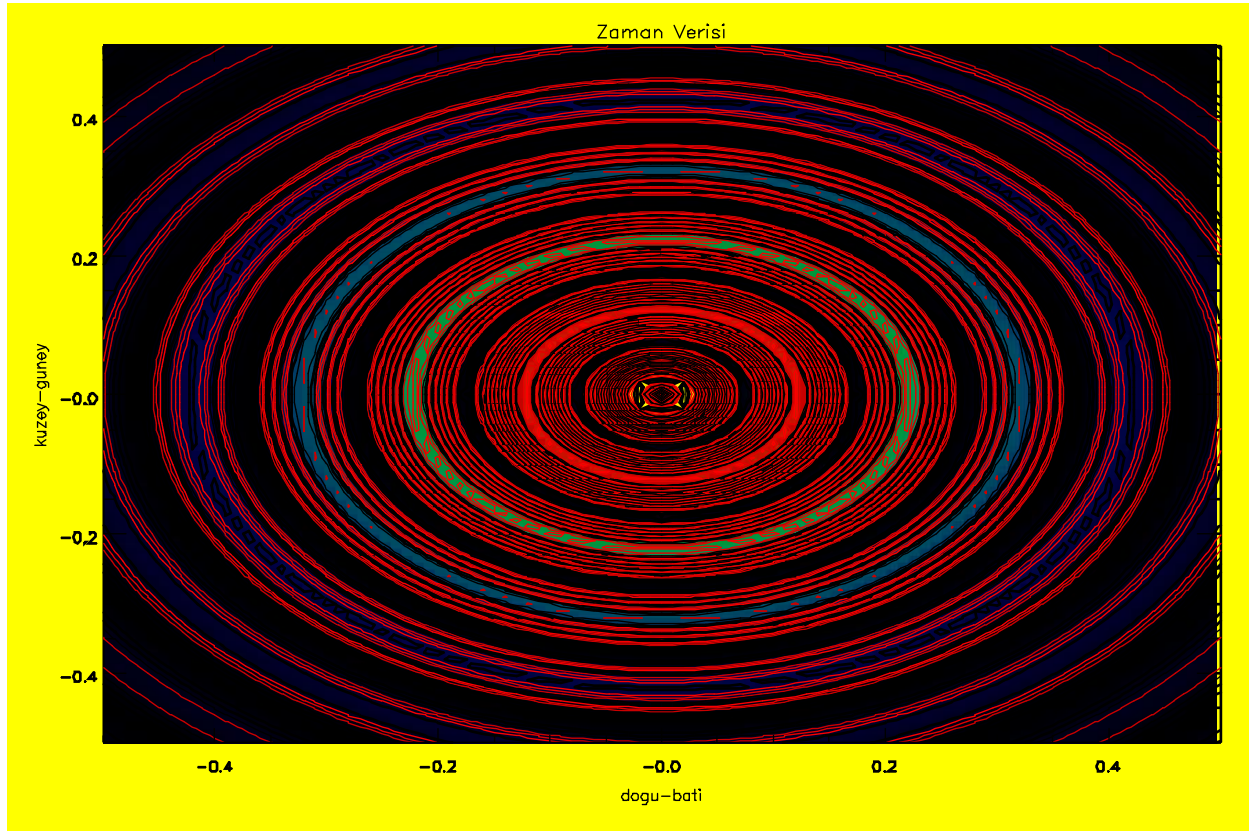


Frekans bölgesinde veri-suzgeç carpımı



Zaman bölgesinde suzgeçlenmiş veri





FREKANS SECICI SUZGECIN TURU

1. Alcak-Gecisli tanjant hiperbolik
2. Band-Gecisli tanjant hiperbolik
3. Yuksek-Gecisli tanjant hiperbolik
4. Band-Durdurucu tanjant hiperbolik
5. Veriyi degistir

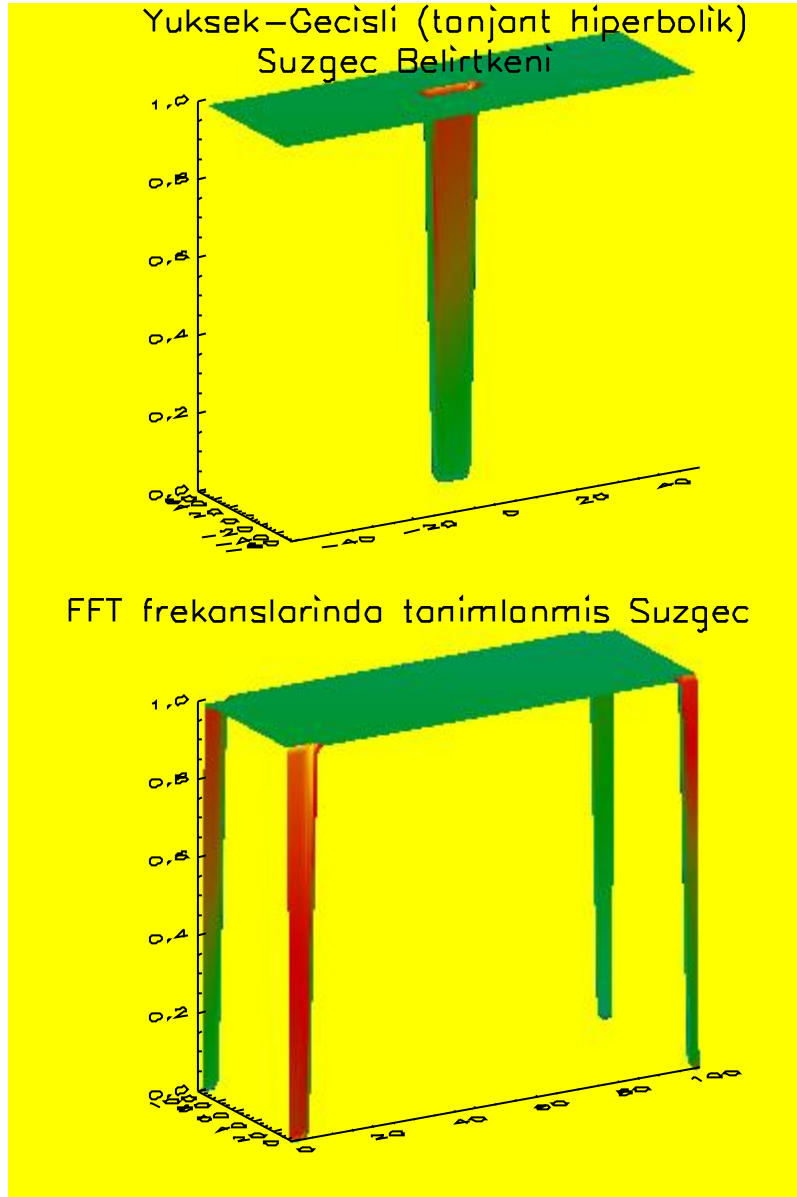
suzgec numarasini giriniz >3

x yonunde

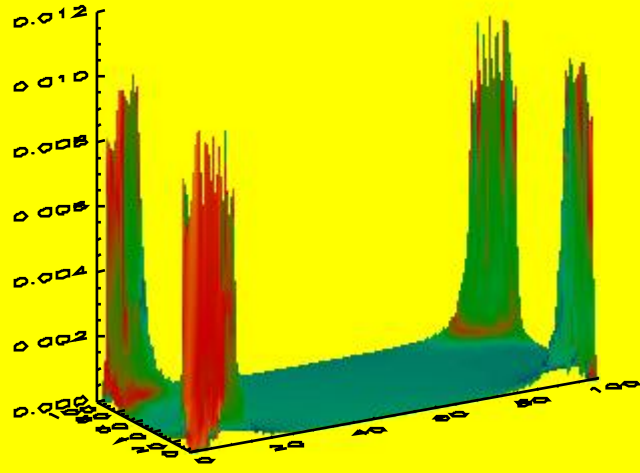
yuksek kesme frekansini ve gecis bolgesi yari uzunlugunu giriniz >5 1

y yonunde

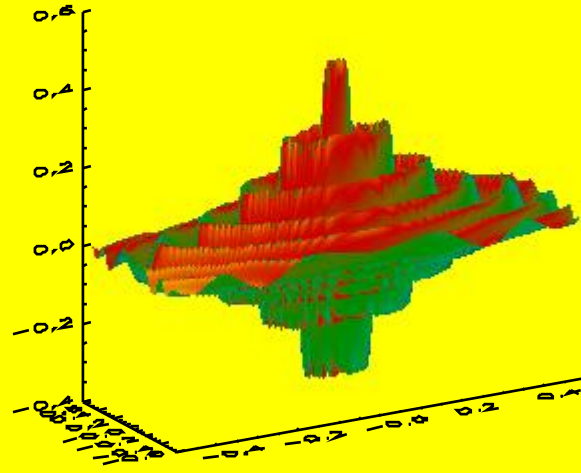
yuksek kesme frekansini ve gecis bolgesi yari uzunlugunu giriniz >5 1

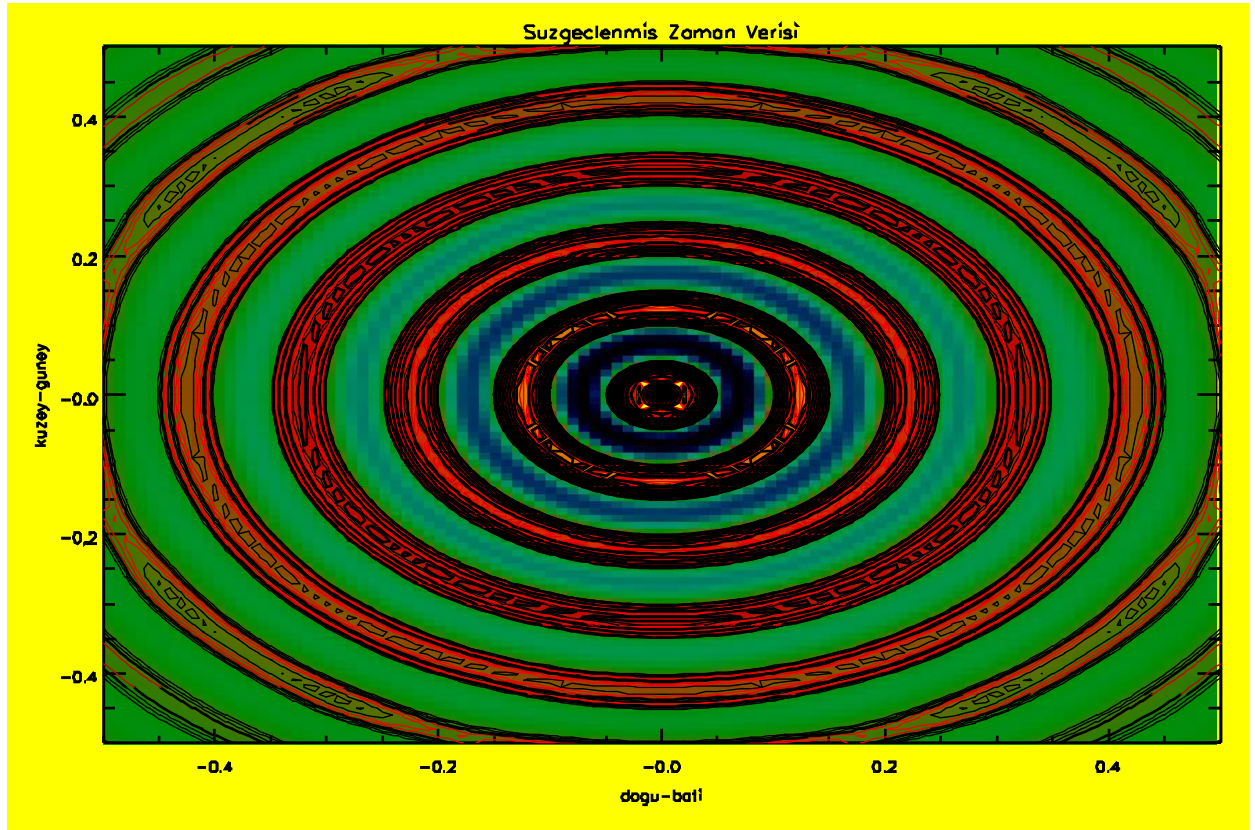
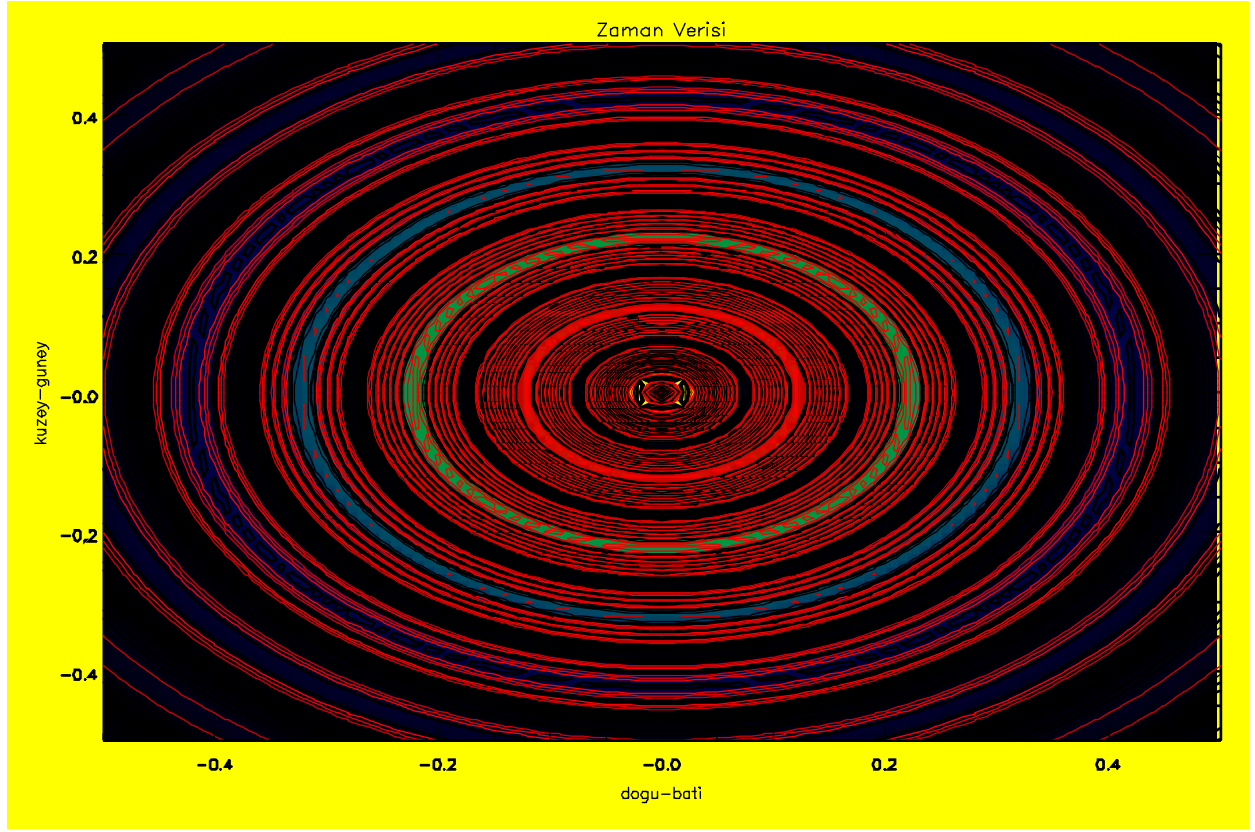


Frekans bölgesinde veri-suzgeç carpimi



Zaman bölgesinde suzgeçlenmiş veri





FREKANS SECICI SUZGECIN TURU

1. Alcak-Gecisli tanjant hiperbolik
2. Band-Gecisli tanjant hiperbolik
3. Yuksek-Gecisli tanjant hiperbolik
4. Band-Durdurucu tanjant hiperbolik
5. Veriyi degistir

suzgec numarasini giriniz >4

x yonunde

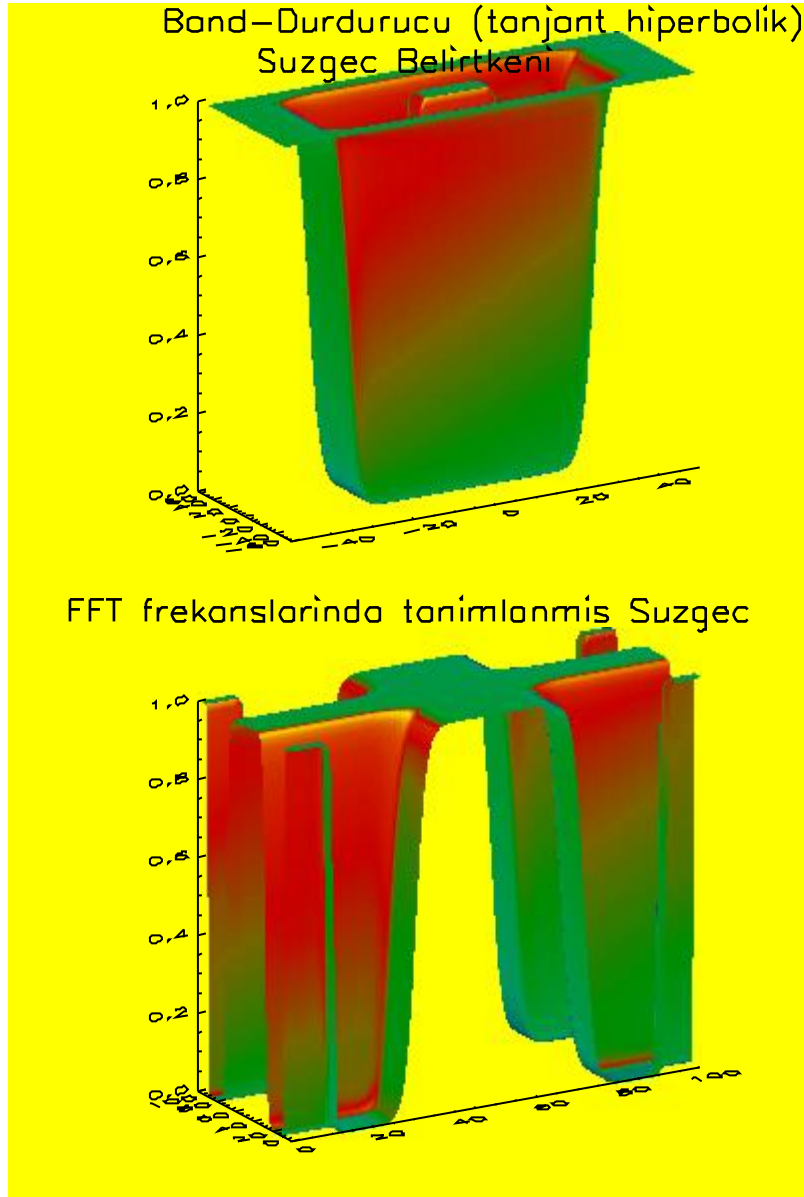
alcak kesme frekansini ve gecis bolgesi yari uzunlugunu giriniz >10 1

yuksek kesme frekansini ve gecis bolgesi yari uzunlugunu giriniz >30 5

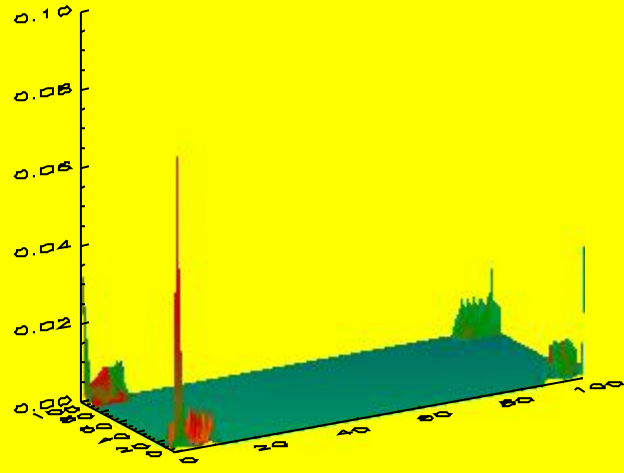
y yonunde

alcak kesme frekansini ve gecis bolgesi yari uzunlugunu giriniz >10 1

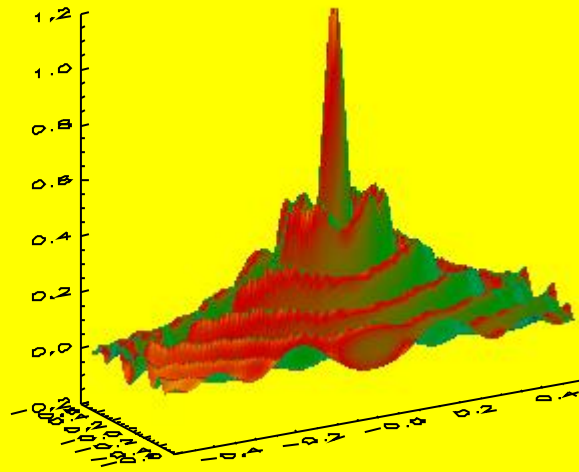
yuksek kesme frekansini ve gecis bolgesi yari uzunlugunu giriniz >30 5

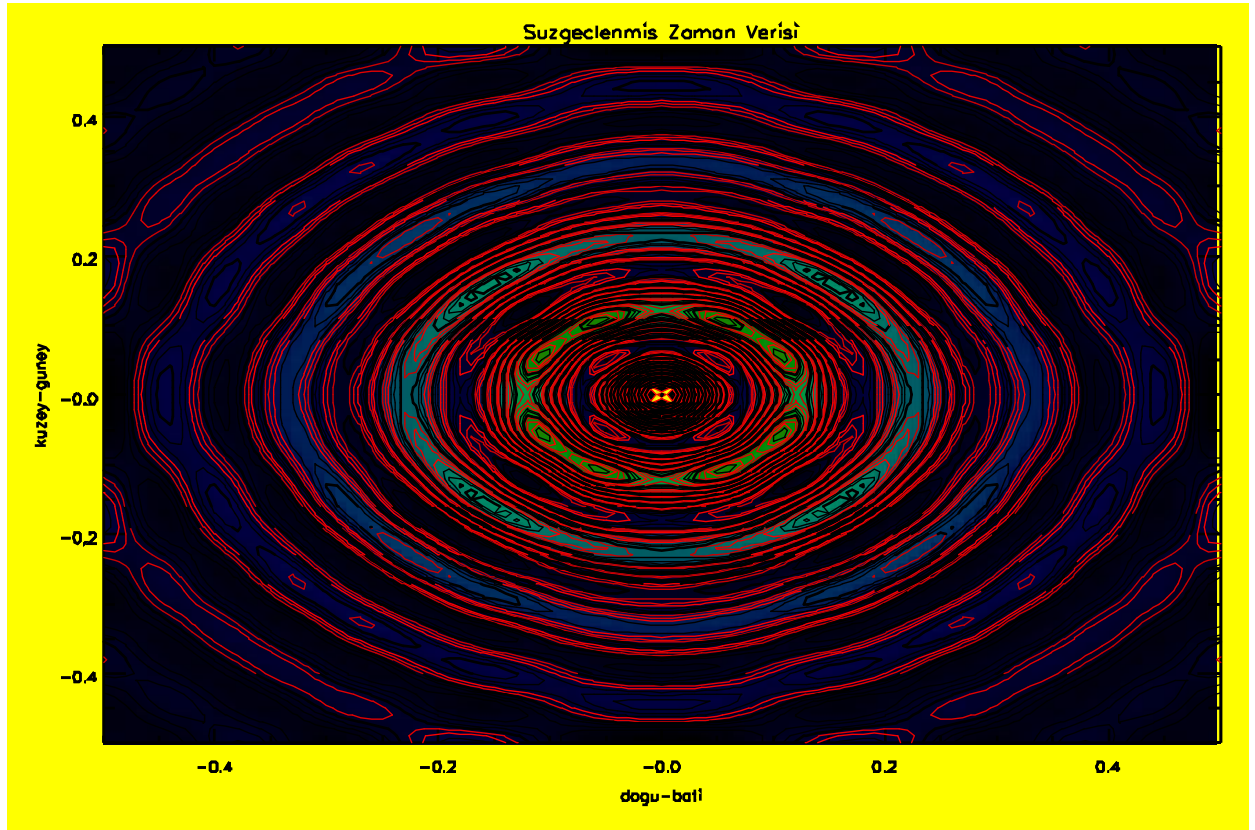
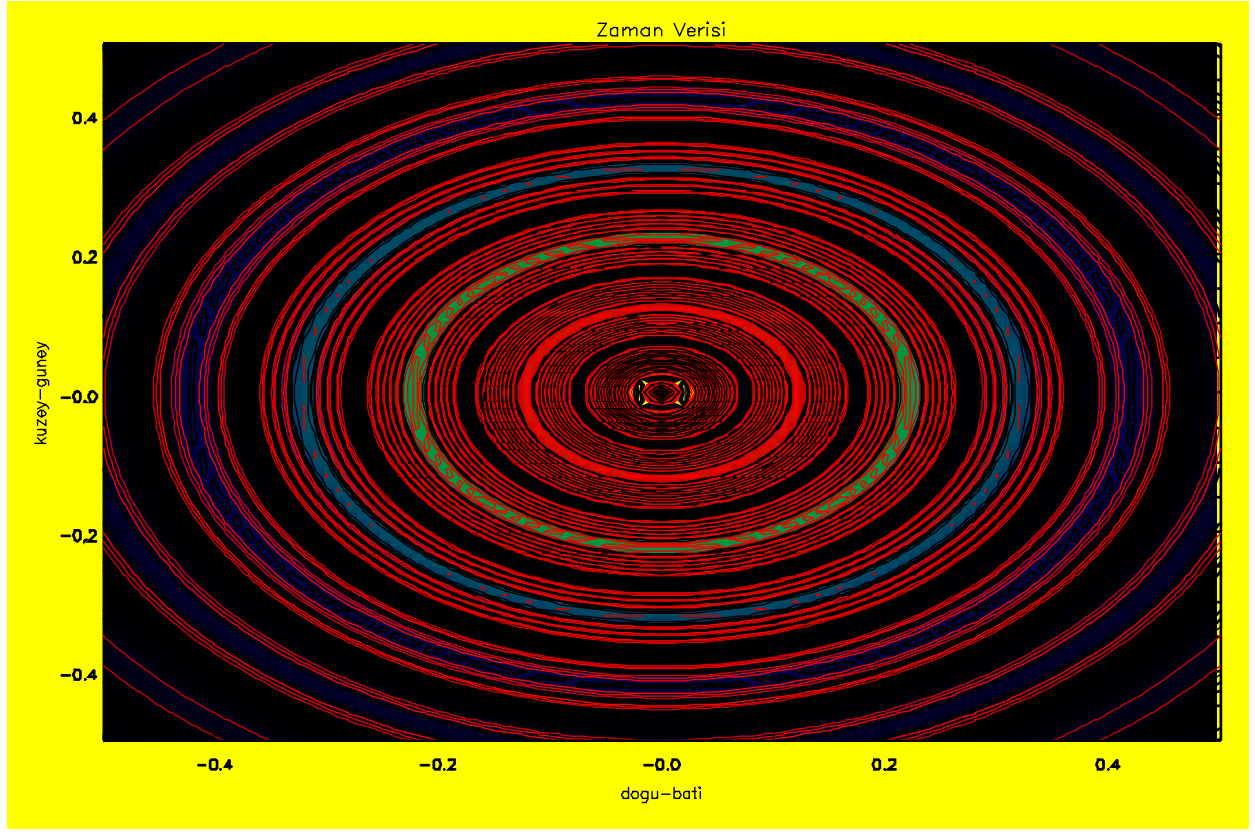


Frekans bölgesinde veri-suzgeç carpımı



Zaman bölgesinde suzgeçlenmiş veri





veri dosyadan okutulacak (1) - sinama verisi (2) - son (3) >2

$$r = \sqrt{x^2 + y^2}$$

$$1. z = \exp(-\text{alfa} * r) * (a * \cos(f1 * r) + b * \sin(f2 * r))$$

$$2. z = \exp(-\text{alfa} * r) * (a * \cos(f1 * x) + b * \sin(f2 * y))$$

$$3. z = \exp(-\text{alfa} * r) * a * \cos(f1 * x) * b * \sin(f2 * y)$$

4. Baslangic

kuramsal verinin numarasini giriniz >2

ornekleme araligini giriniz >0.01

a ve b katsayilarini giriniz >1 1

sadece sinüzoidal icin alfa=0

alfa katsayisini giriniz >3

veri sayisi 101.000

ornekleme araligi 0.0100000

frekans ornekleme araligi 1.00000

Nyquist frekansi 50.000

iki adet frekans degeri giriniz >5 10

dondurme acisi >0

toplam veri sayisi 10201.0

x yonunde____

veri sayisi 101.000

ornekleme araligi 0.0100000

frekans ornekleme araligi 1.00000

Nyquist frekansi 50.0000

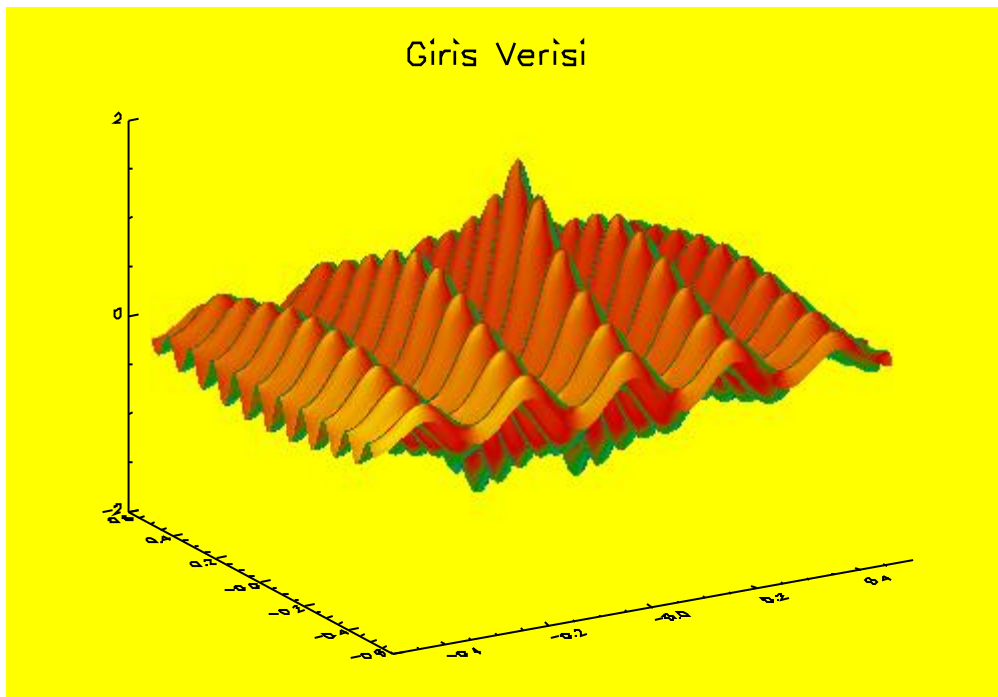
y yonunde____

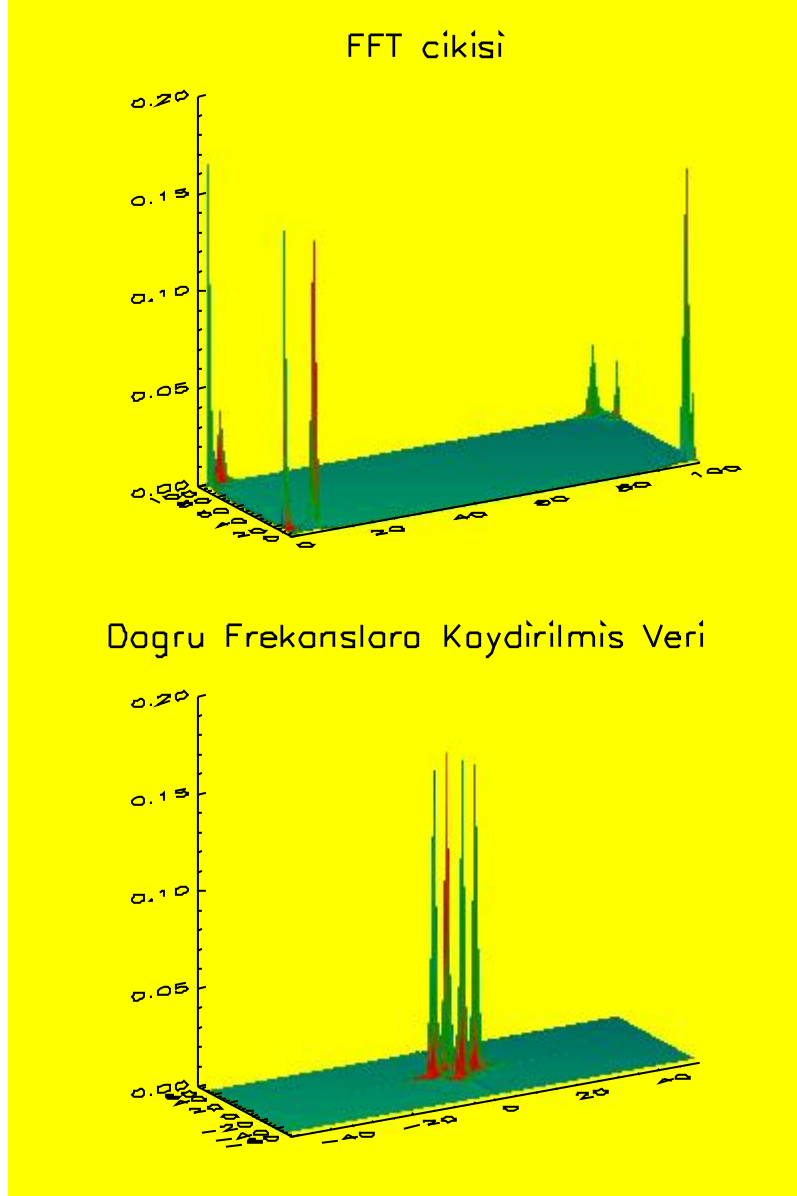
veri sayisi 101.000

ornekleme araligi 0.0100000

frekans ornekleme araligi 1.00000

Nyquist frekansi 50.0000





FREKANS SECICI SUZGECIN TURU

1. Alcak-Gecisli tanjant hiperbolik
 2. Band-Gecisli tanjant hiperbolik
 3. Yuksek-Gecisli tanjant hiperbolik
 4. Band-Durdurucu tanjant hiperbolik
 5. Veriyi degistir
- suzgec numarasini giriniz >1

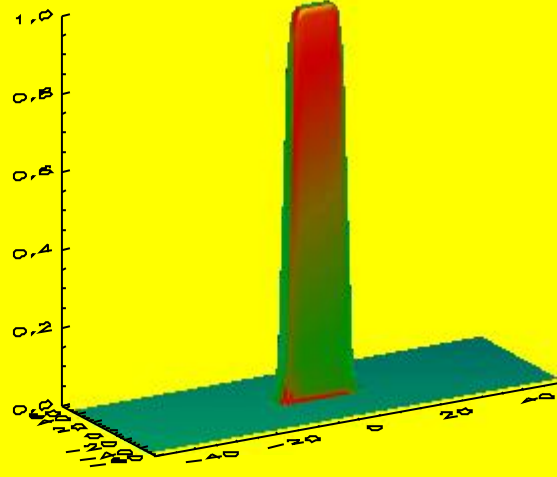
x yonunde

alcak kesme frekansini ve gecis bolgesi yari uzunlugunu giriniz >7 2

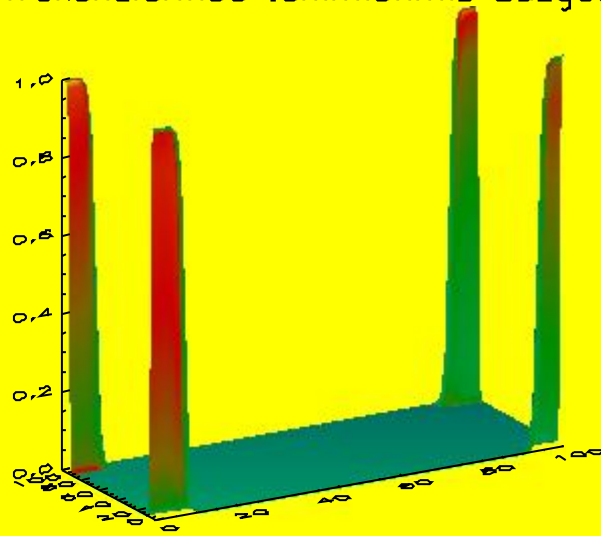
y yonunde

alcak kesme frekansini ve gecis bolgesi yari uzunlugunu giriniz >7 2

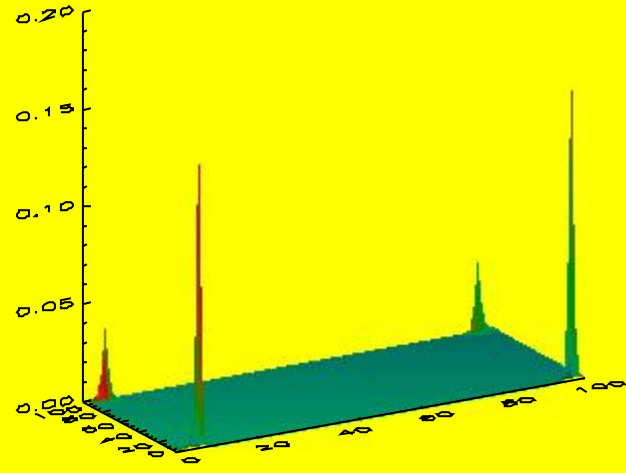
Alcok-Gecisli (tanjant hiperbolik)
Suzgec Belirtkeni



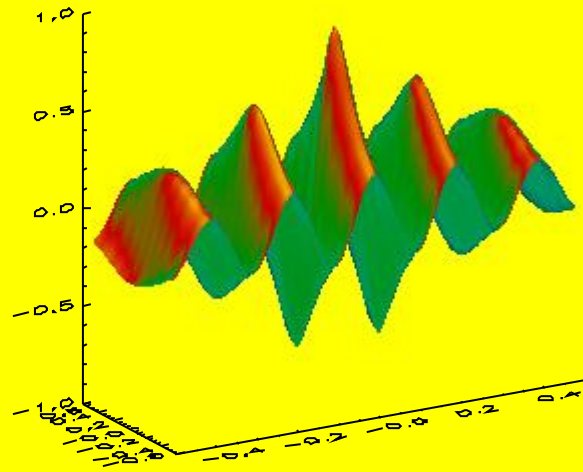
FFT frekanslarında tanımlanmış Suzgeç

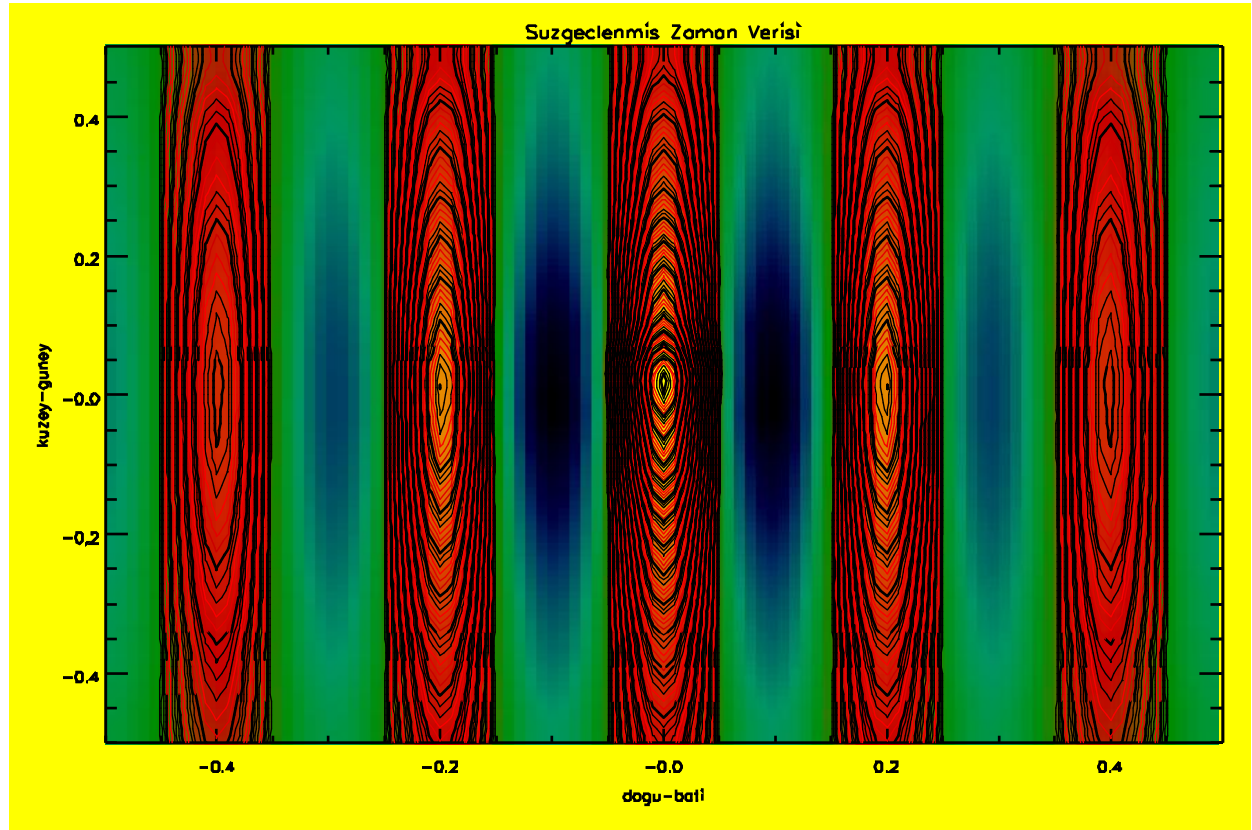
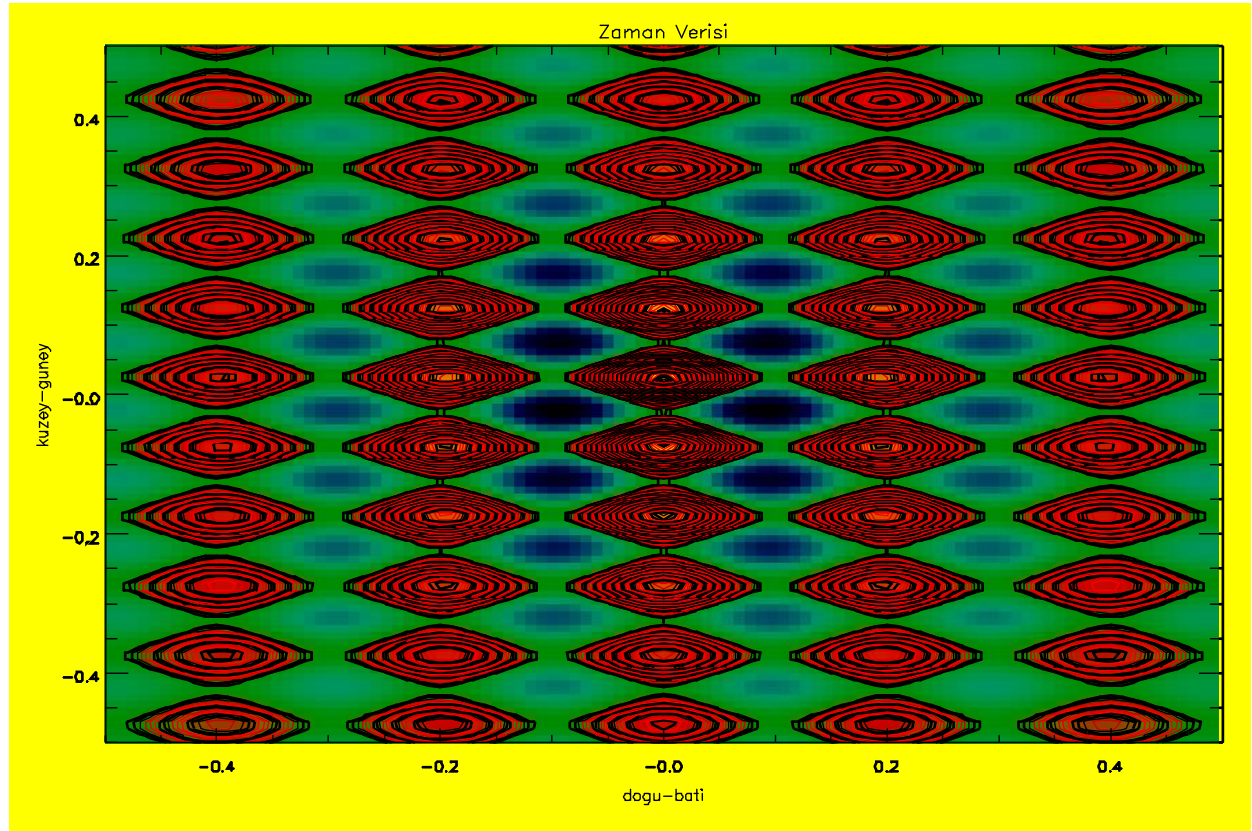


Frekans bölgesinde veri-suzgeç carpimi



Zaman bölgesinde suzgeçlenmiş veri





FREKANS SECICI SUZGECIN TURU

1. Alcak-Gecisli tanjant hiperbolik
 2. Band-Gecisli tanjant hiperbolik
 3. Yuksek-Gecisli tanjant hiperbolik
 4. Band-Durdurucu tanjant hiperbolik
 5. Veriyi degistir
- suzgec numarasini giriniz >2

x yonunde

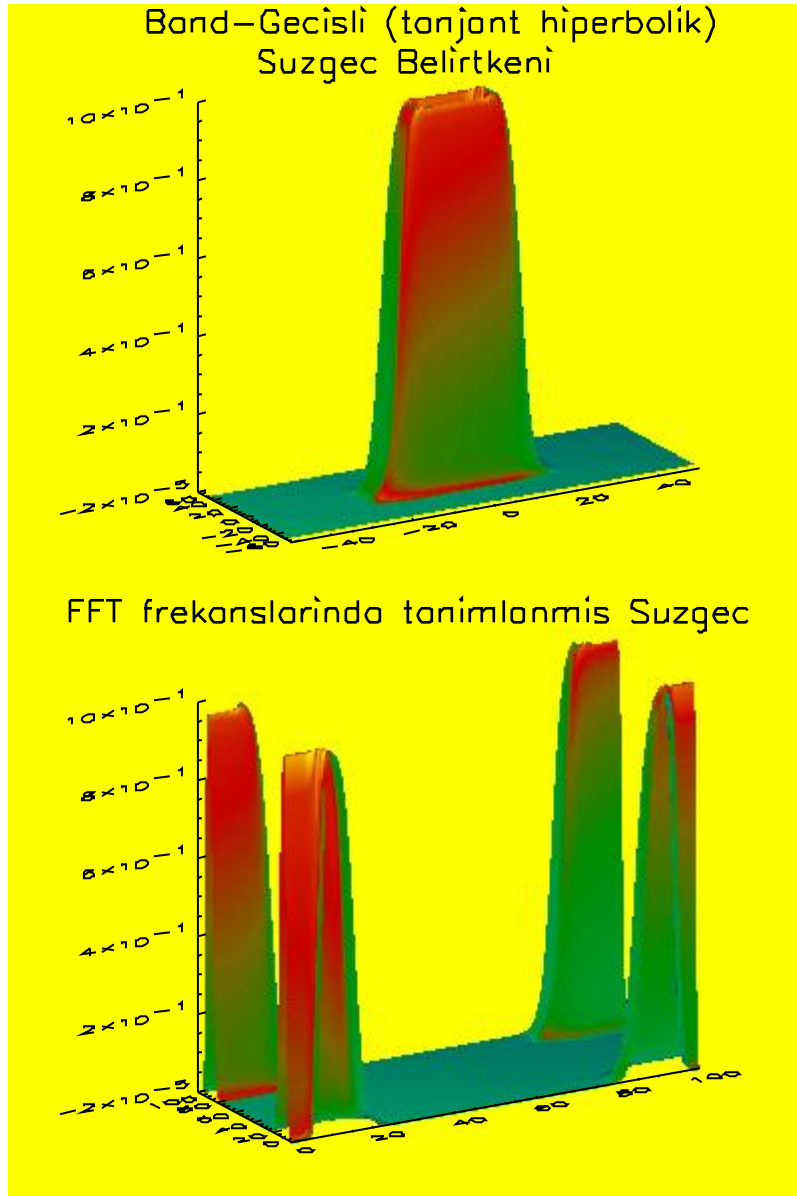
alcak kesme frekansini ve gecis bolgesi yari uzunlugunu giriniz >7 2

yuksek kesme frekansini ve gecis bolgesi yari uzunlugunu giriniz >15 5

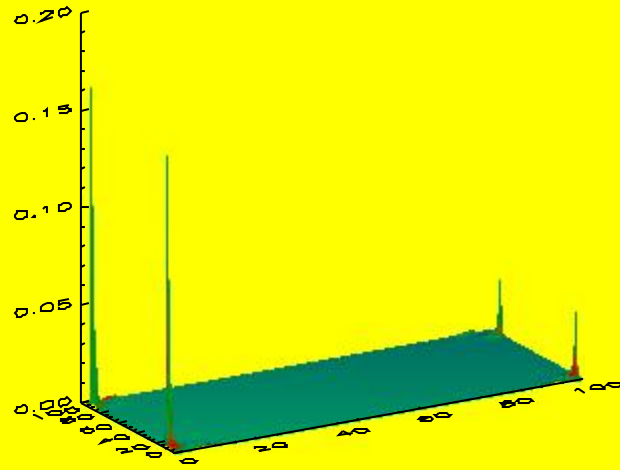
y yonunde

alcak kesme frekansini ve gecis bolgesi yari uzunlugunu giriniz >7 2

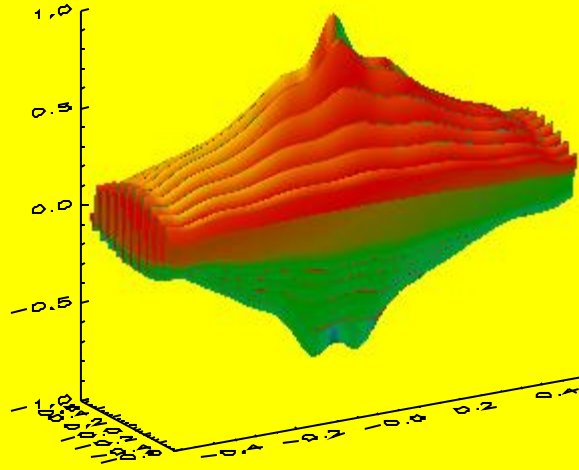
yuksek kesme frekansini ve gecis bolgesi yari uzunlugunu giriniz >15 5

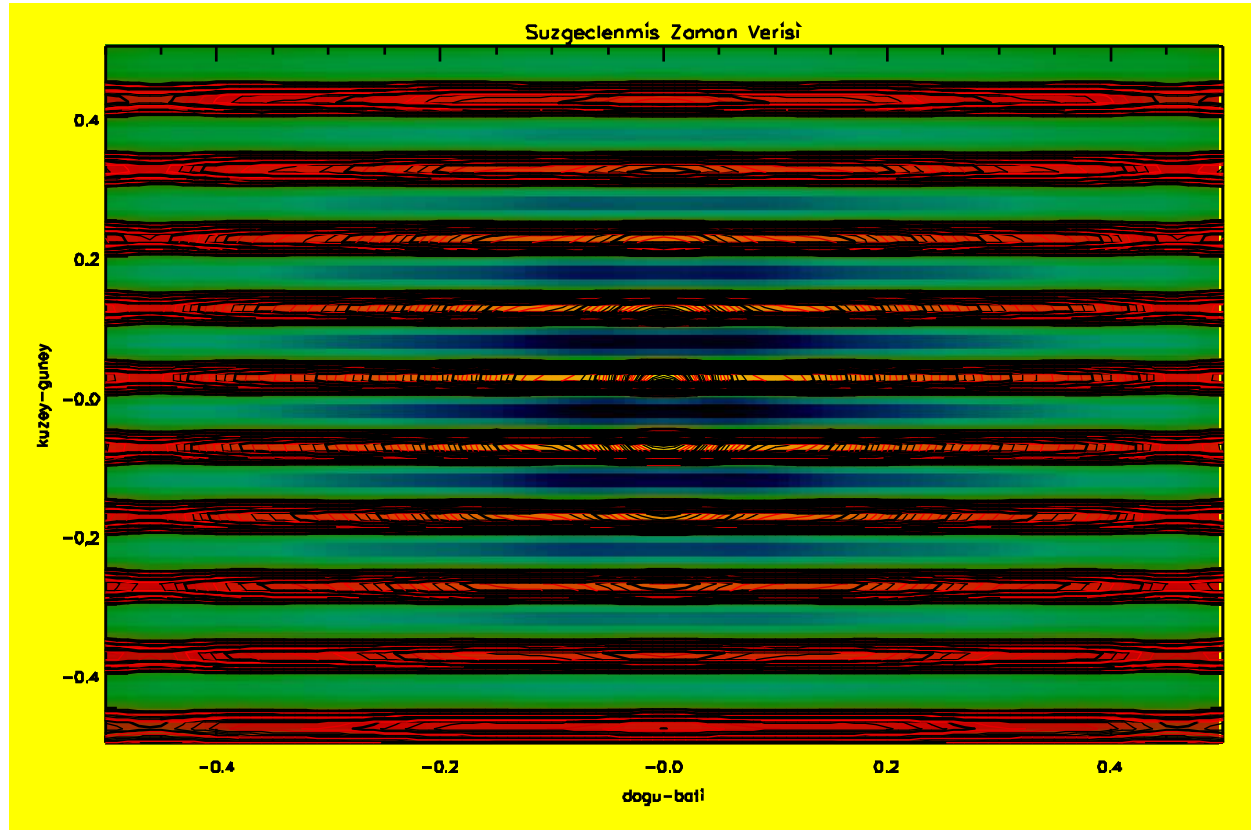
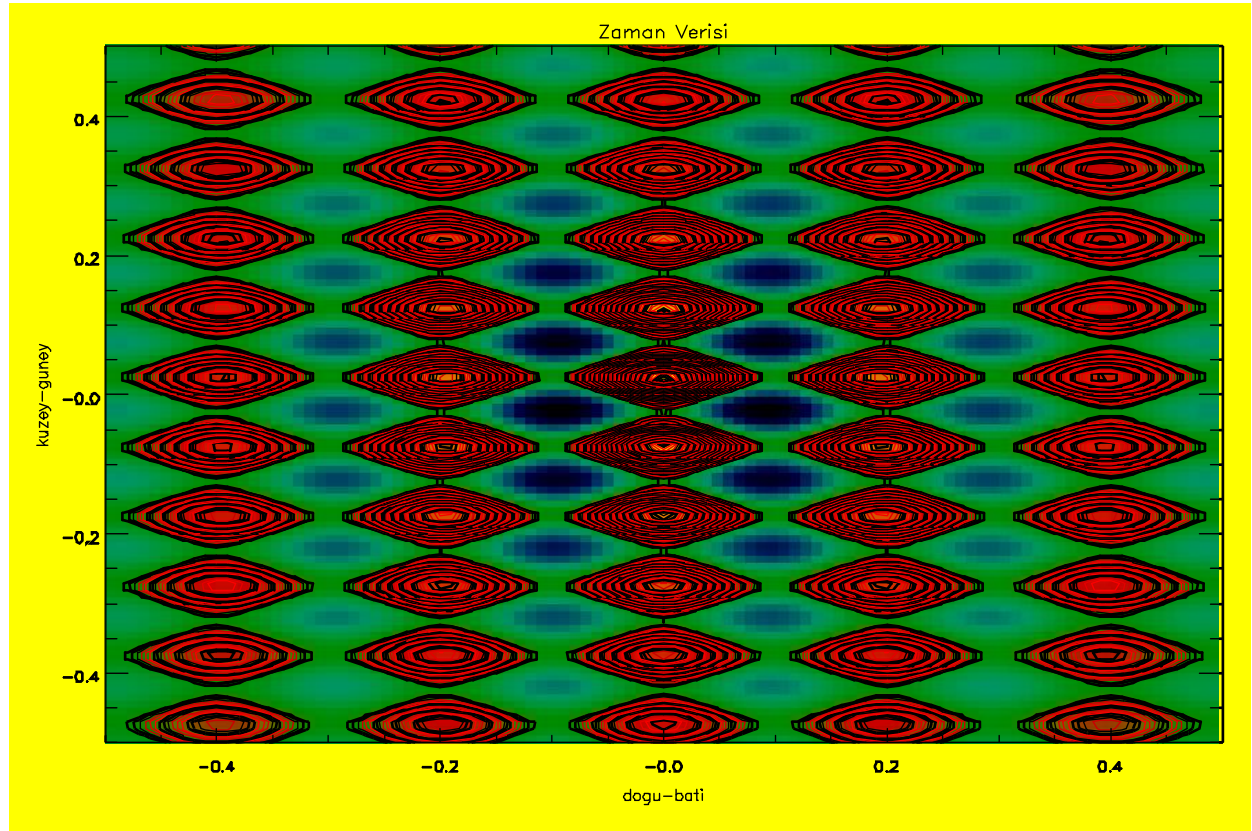


Frekans bölgesinde veri-suzgeç carpımı



Zaman bölgesinde suzgeçlenmiş veri





FREKANS SECICI SUZGECIN TURU

1. Alcak-Gecisli tanjant hiperbolik
2. Band-Gecisli tanjant hiperbolik
3. Yuksek-Gecisli tanjant hiperbolik
4. Band-Durdurucu tanjant hiperbolik
5. Veriyi degistir

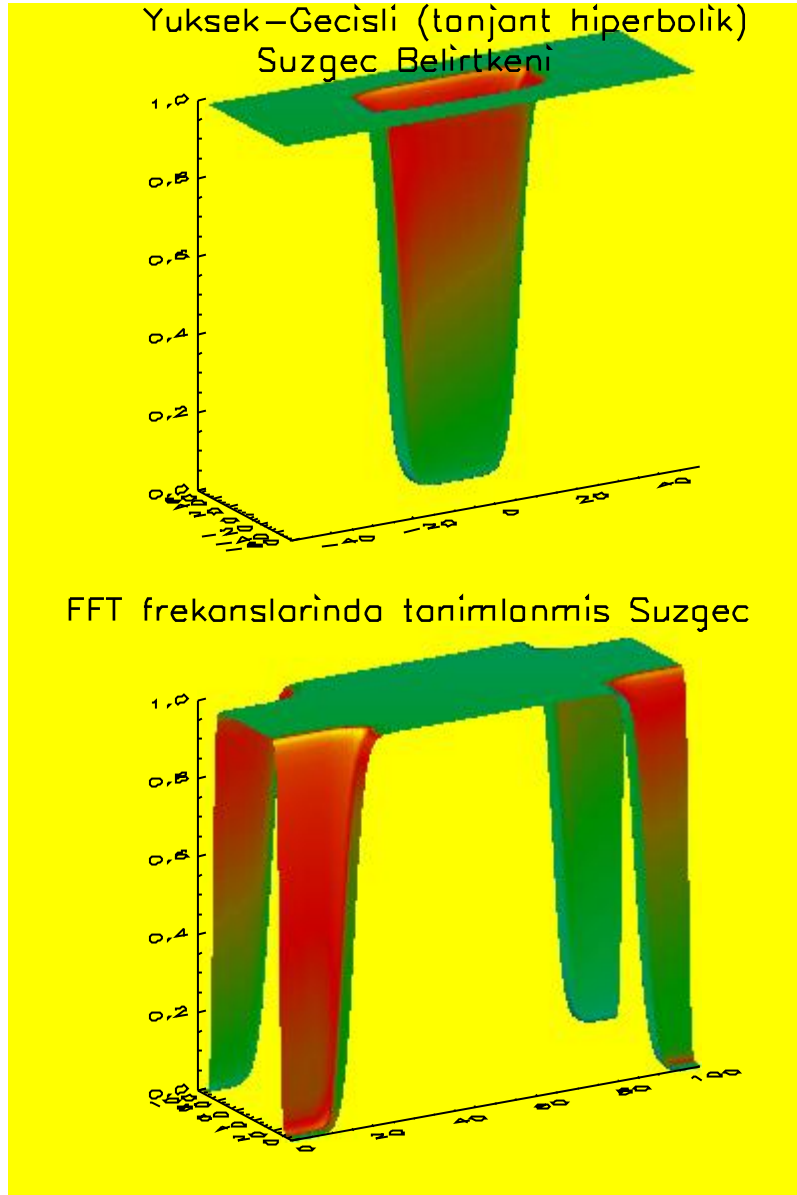
suzgec numarasini giriniz >3

x yonunde

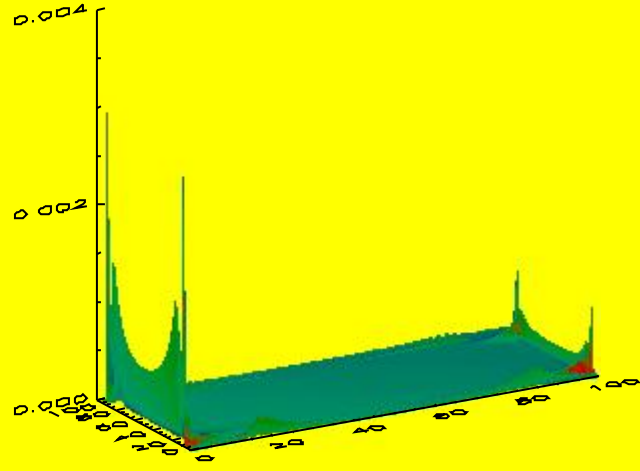
yuksek kesme frekansini ve gecis bolgesi yari uzunlugunu giriniz >15 5

y yonunde

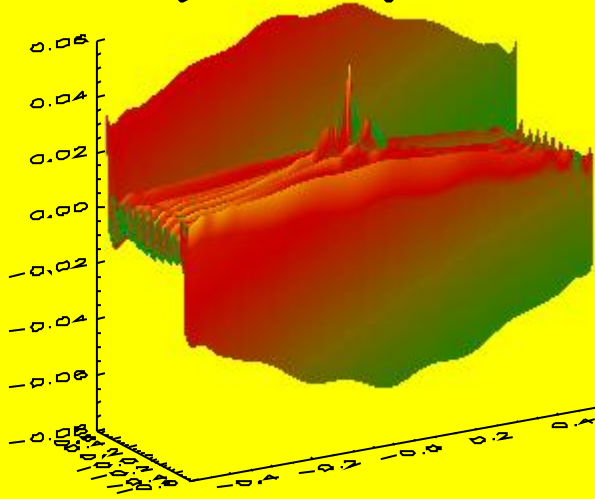
yuksek kesme frekansini ve gecis bolgesi yari uzunlugunu giriniz >15 5

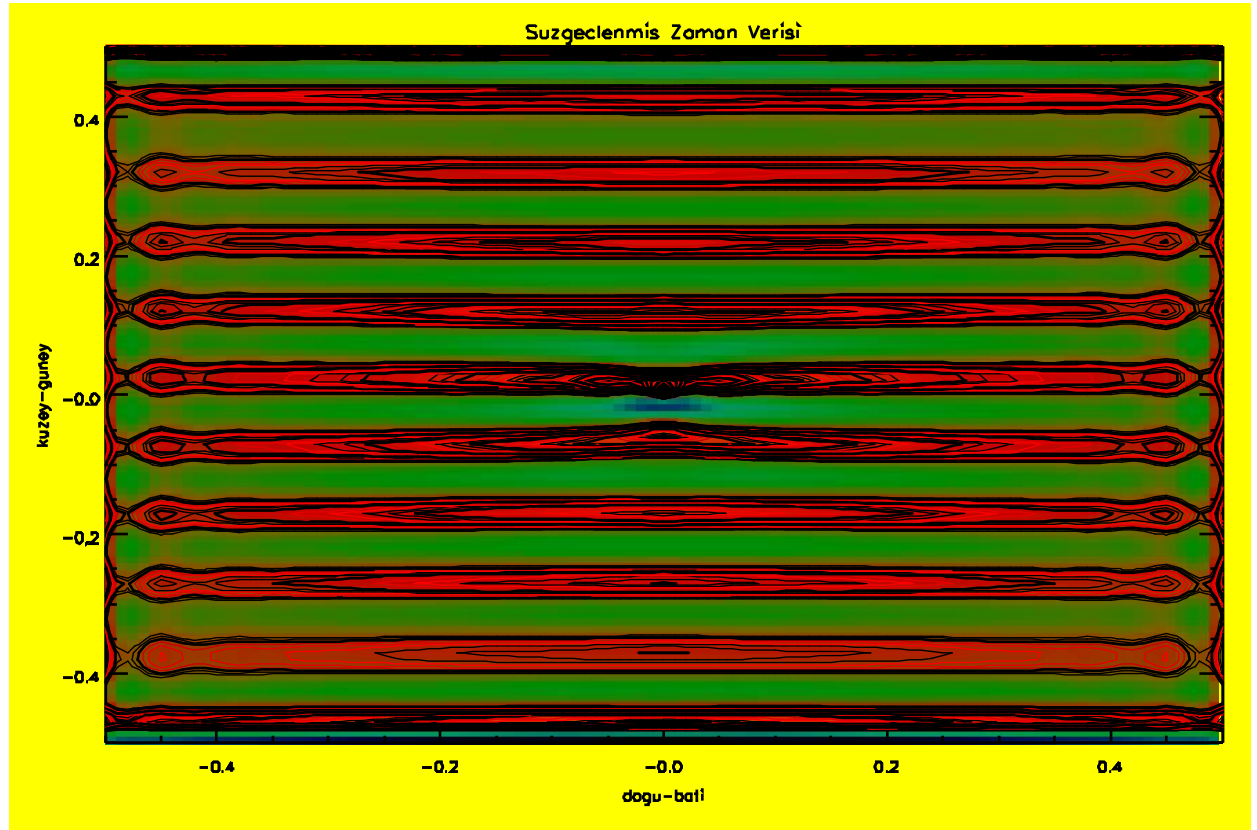
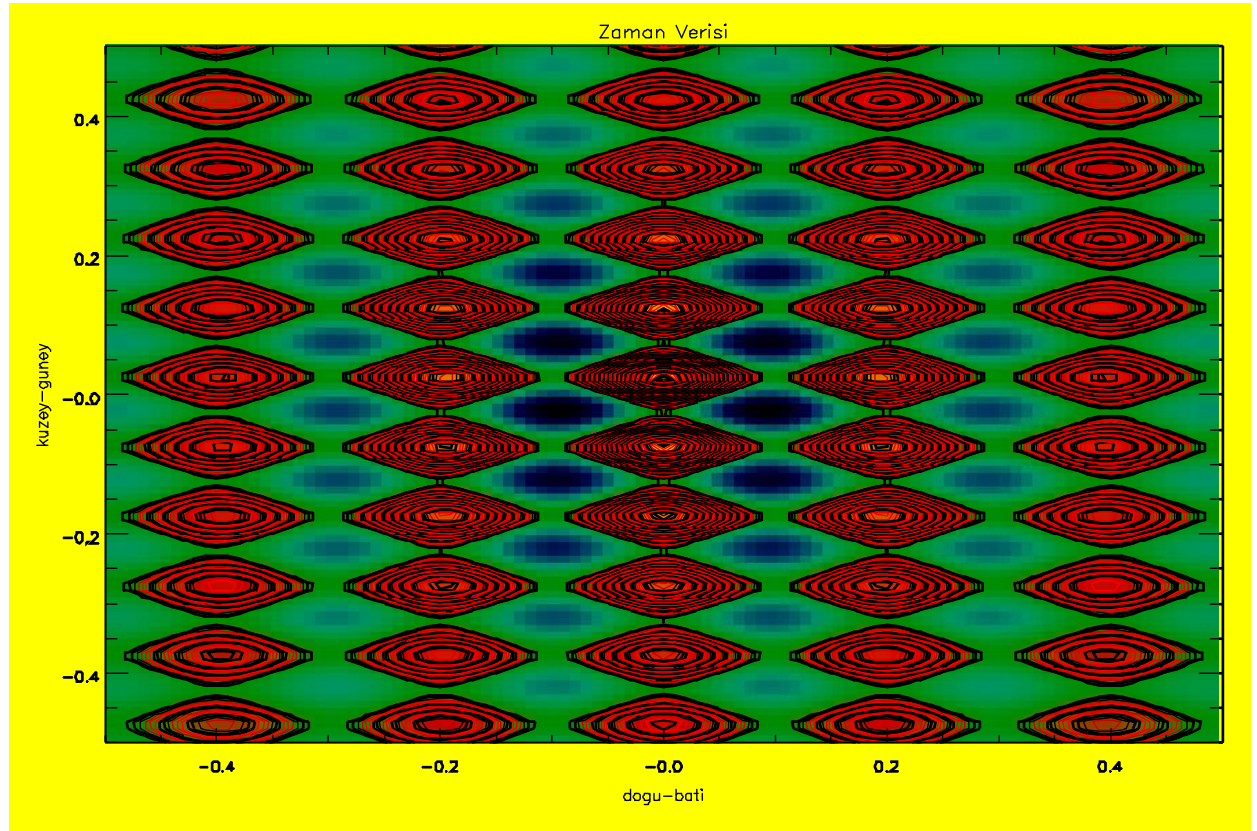


Frekans bölgesinde veri-suzgeç carpımı



Zaman bölgesinde suzgeçlenmiş veri



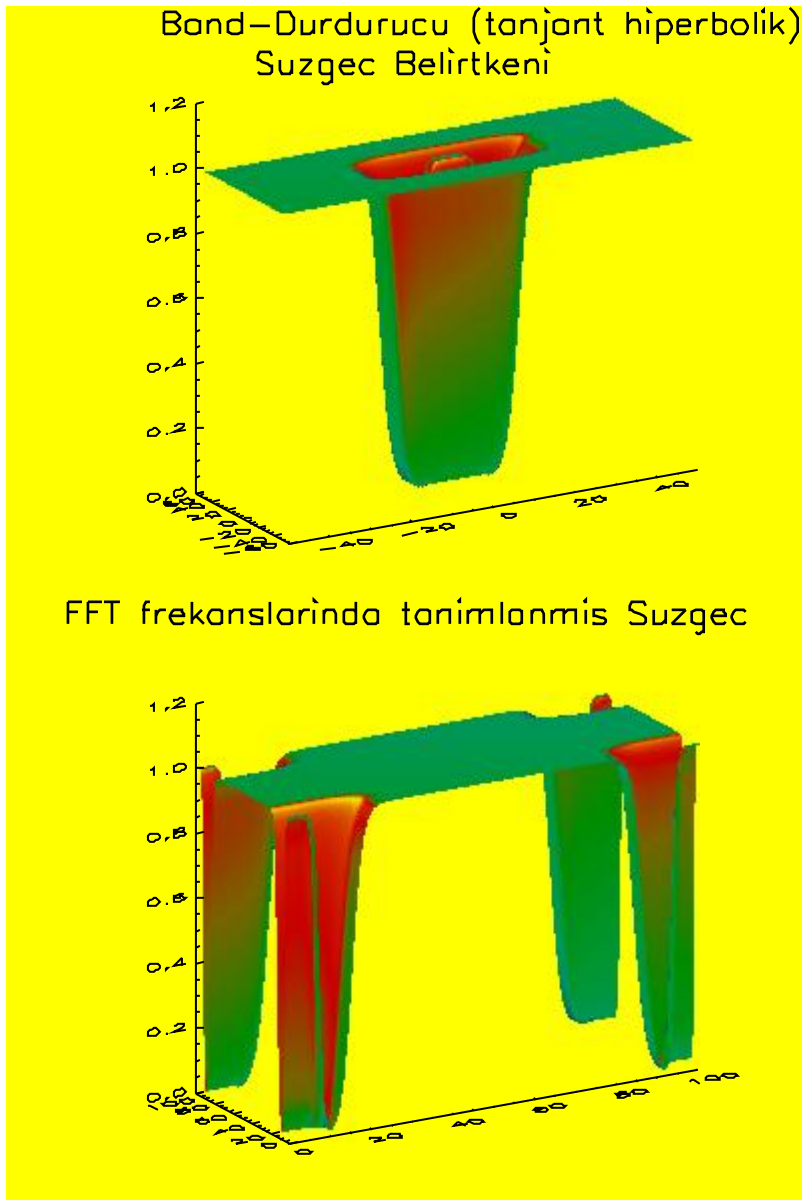


FREKANS SECICI SUZGECIN TURU

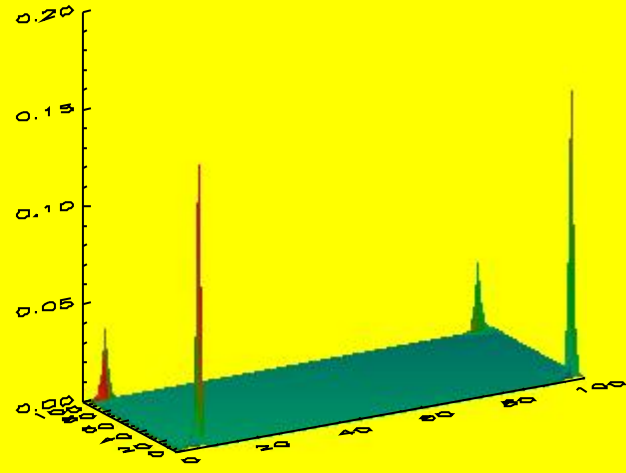
1. Alcak-Gecisli tanjant hiperbolik
 2. Band-Gecisli tanjant hiperbolik
 3. Yuksek-Gecisli tanjant hiperbolik
 4. Band-Durdurucu tanjant hiperbolik
 5. Veriyi degistir
- suzgec numarasini giriniz >4
x yonunde

alcak kesme frekansini ve gecis bolgesi yari uzunlugunu giriniz >7 2
yuksek kesme frekansini ve gecis bolgesi yari uzunlugunu giriniz >15 5
y yonunde

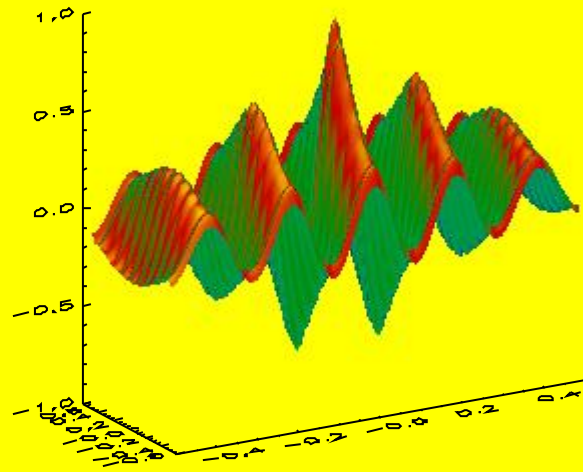
alcak kesme frekansini ve gecis bolgesi yari uzunlugunu giriniz >7 2
yuksek kesme frekansini ve gecis bolgesi yari uzunlugunu giriniz >15 5

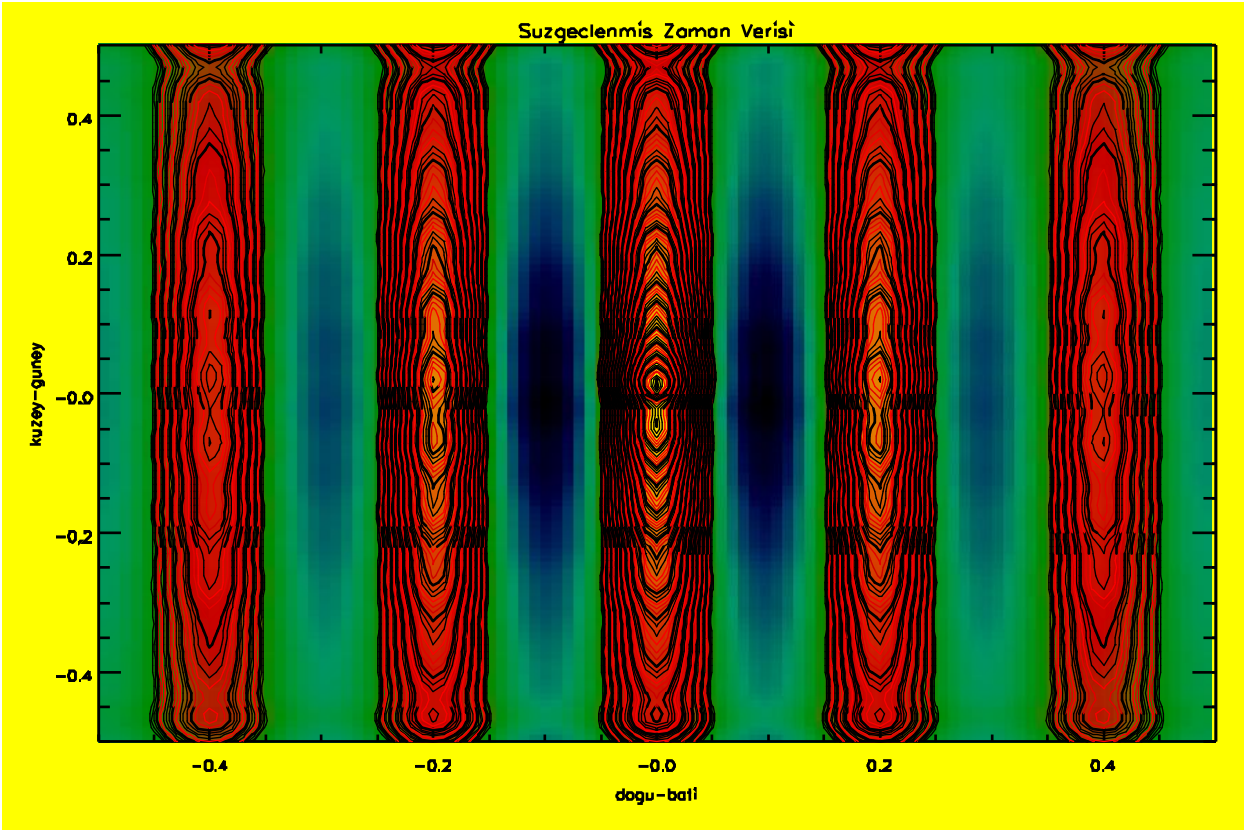
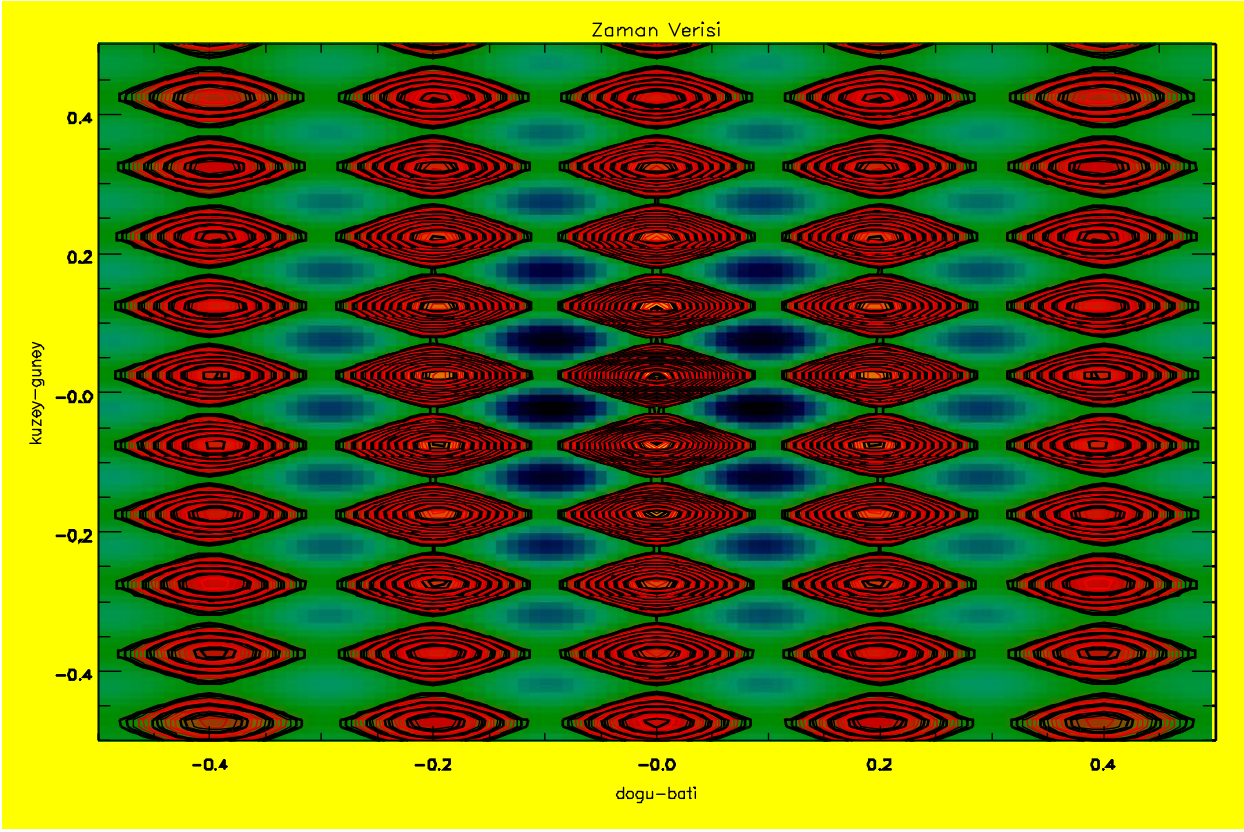


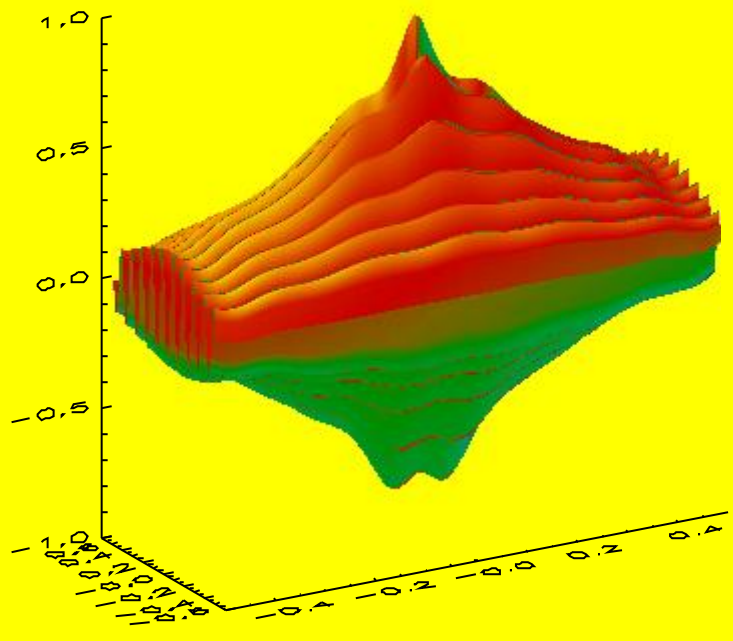
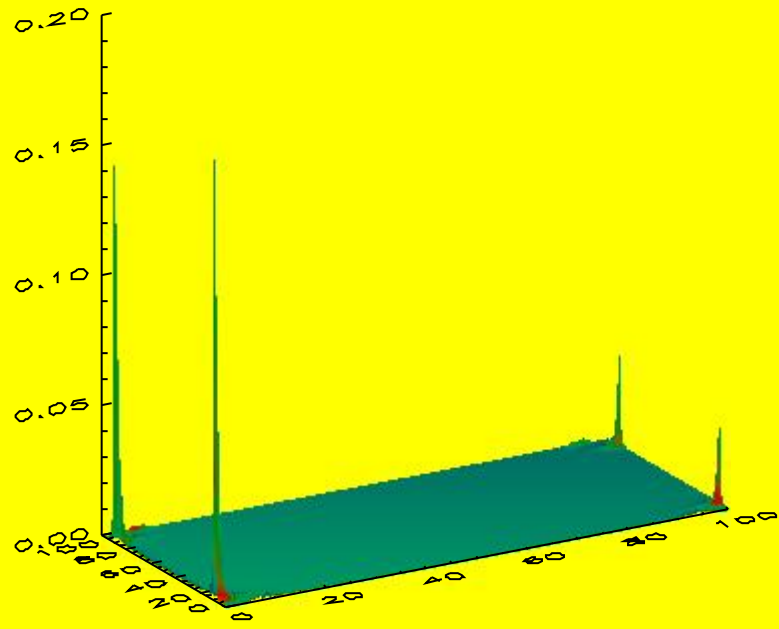
Frekans bölgesinde veri-suzgeç carpimi



Zaman bölgesinde suzgeçlenmiş veri







veri dosyadan okutulacak (1) - sinama verisi (2) - son (3) >2

$$r = \sqrt{x^2 + y^2}$$

$$1. z = \exp(-\alpha * r) * (a * \cos(f1 * r) + b * \sin(f2 * r))$$

$$2. z = \exp(-\alpha * r) * (a * \cos(f1 * x) + b * \sin(f2 * y))$$

$$3. z = \exp(-\alpha * r) * a * \cos(f1 * x) * b * \sin(f2 * y)$$

4. Baslangic

kuramsal verinin numarasini giriniz >3

ornekleme araligini giriniz >0.01

a ve b katsayilarini giriniz >1 1

sadece sinüzoidal icin alfa=0

alfa katsayisini giriniz >3

veri sayisi 101.000

ornekleme araligi 0.0100000

frekans ornekleme araligi 1.00000

Nyquist frekansi 50.0000

iki adet frekans degeri giriniz >5 10

dondurma acisi >0

toplam veri sayisi 10201.0

x yonunde_____

veri sayisi 101.000

ornekleme araligi 0.0100000

frekans ornekleme araligi 1.00000

Nyquist frekansi 50.0000

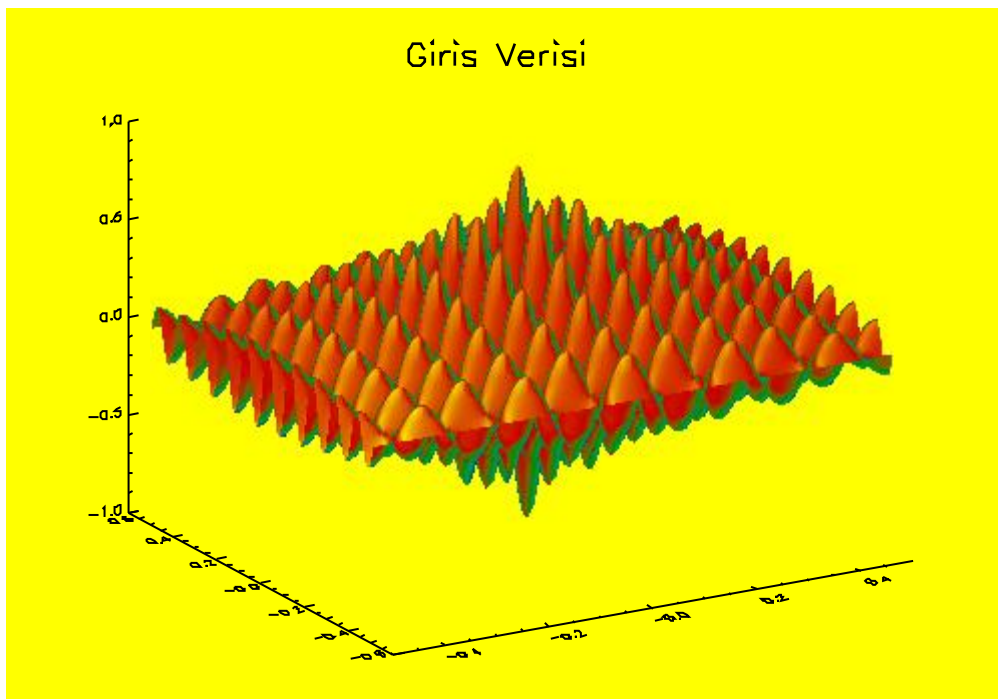
y yonunde_____

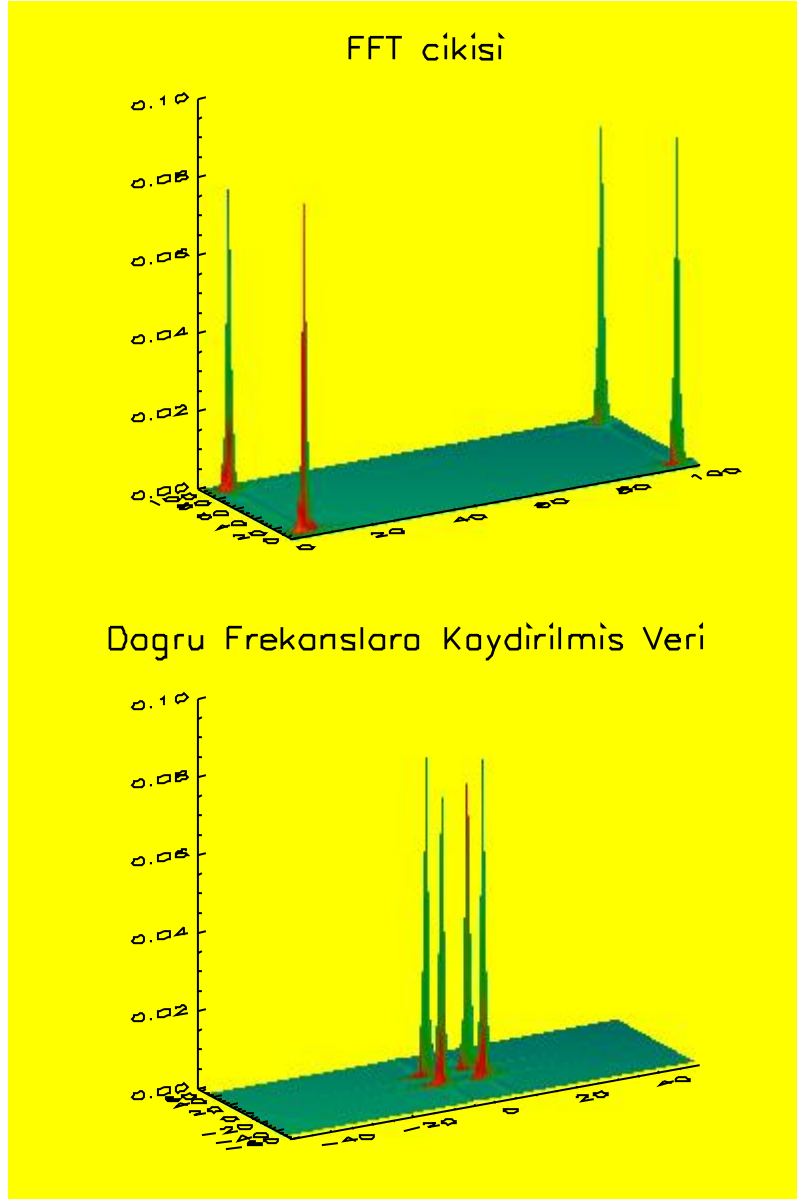
veri sayisi 101.000

ornekleme araligi 0.0100000

frekans ornekleme araligi 1.00000

Nyquist frekansi 50.0000





FREKANS SECICI SUZGECIN TURU

1. Alcak-Gecisli tanjant hiperbolik
2. Band-Gecisli tanjant hiperbolik
3. Yuksek-Gecisli tanjant hiperbolik
4. Band-Durdurucu tanjant hiperbolik
5. Veriyi degistir

suzgec numarasini giriniz >1

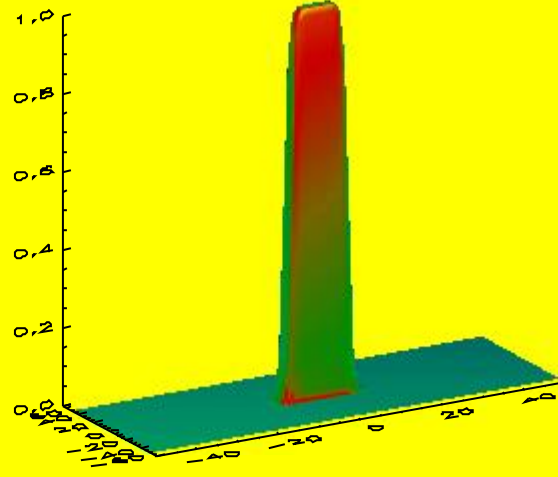
x yonunde

alcak kesme frekansini ve gecis bolgesi yari uzunlugunu giriniz >7 2

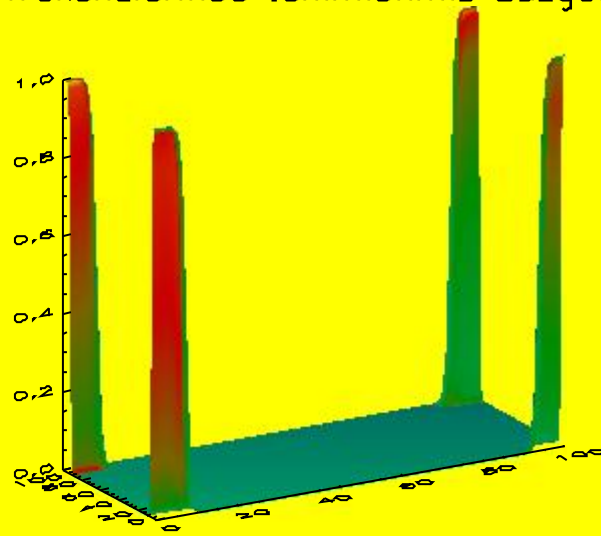
y yonunde

alcak kesme frekansini ve gecis bolgesi yari uzunlugunu giriniz >7 2

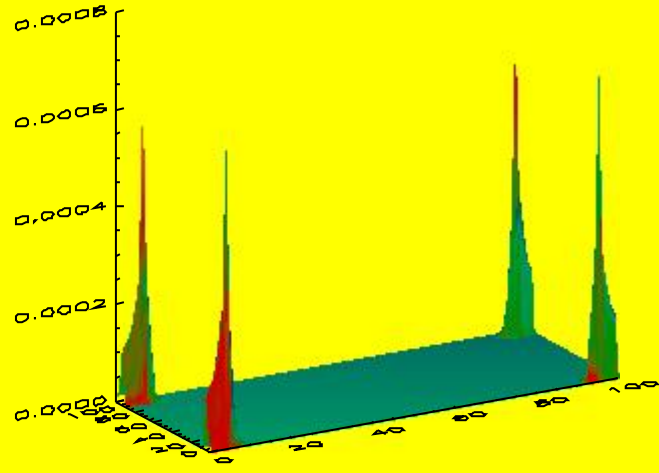
Alcok-Gecisli (tanjant hiperbolik)
Suzgec Belirtkeni



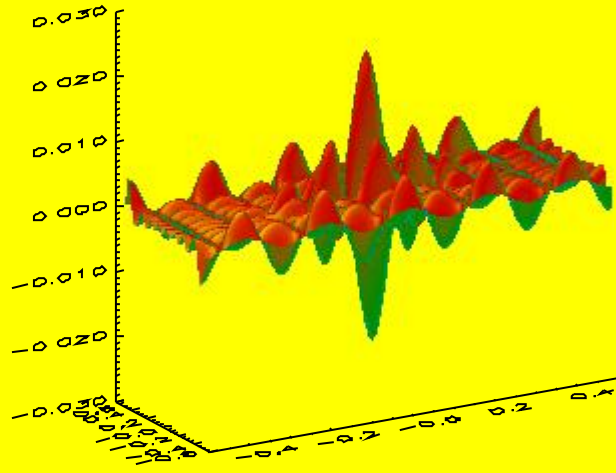
FFT frekanslarında tanımlanmış Suzgeç

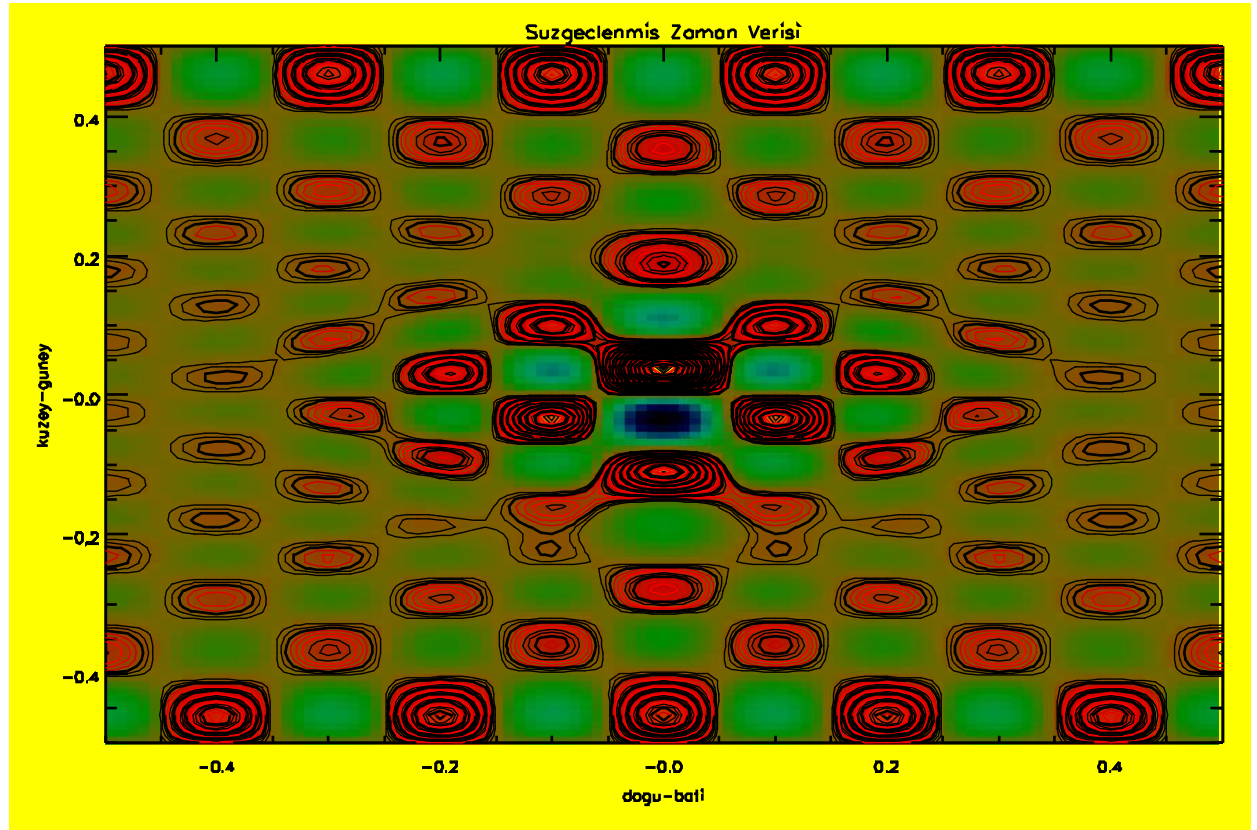
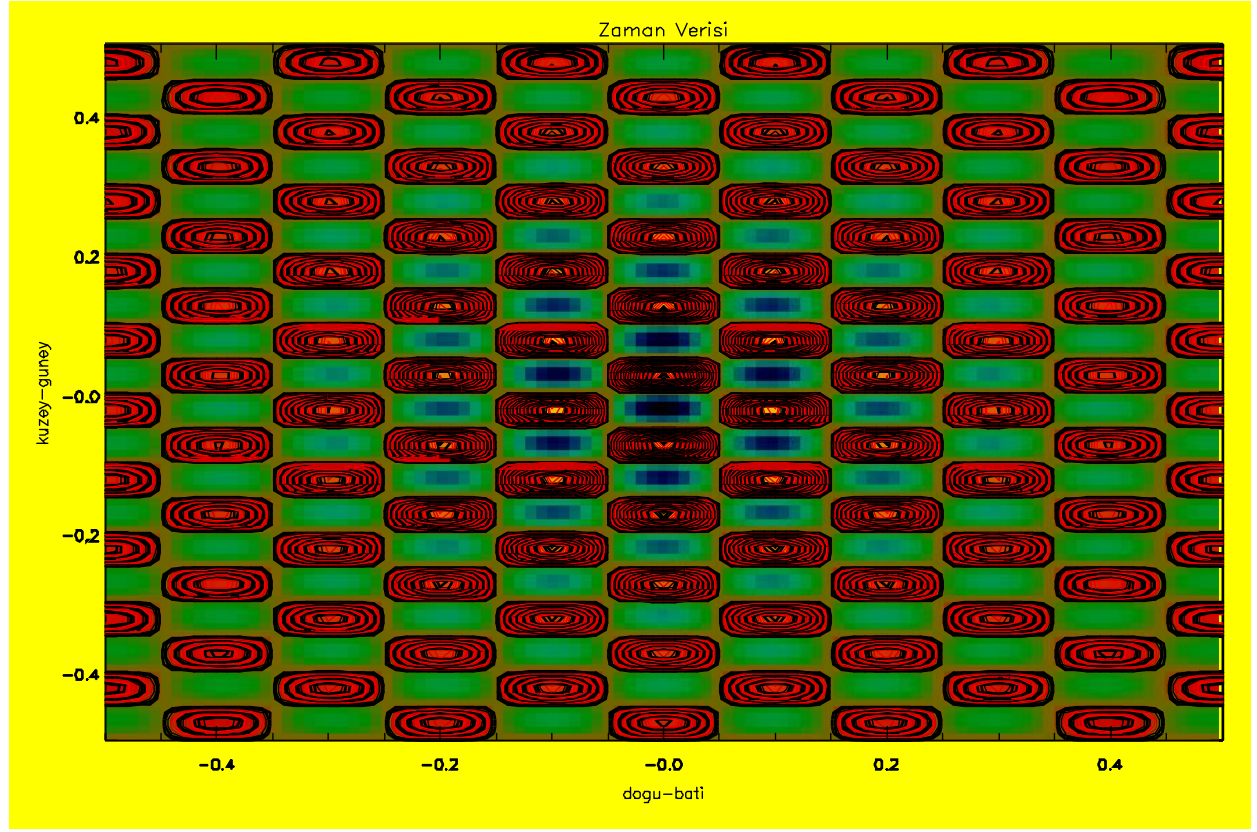


Frekans bölgesinde veri-suzgeç carpimi



Zaman bölgesinde suzgeçlenmiş veri



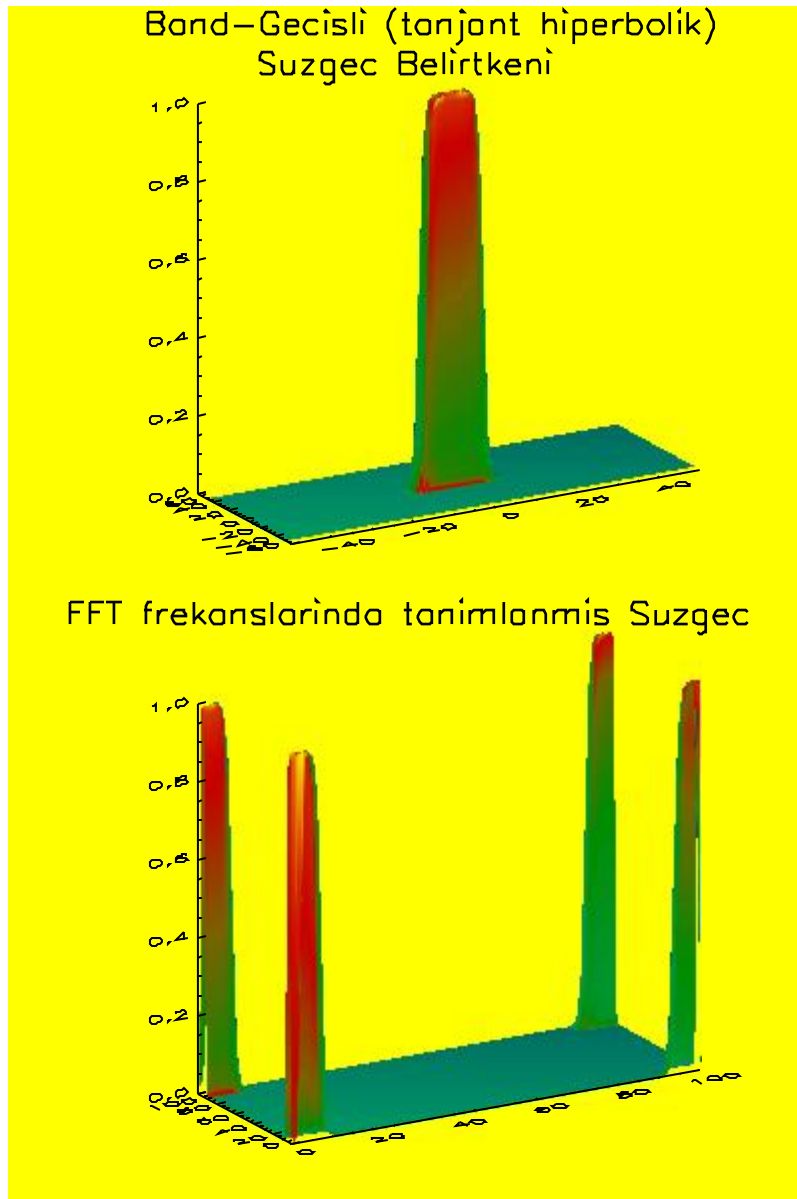


FREKANS SECICI SUZGECIN TURU

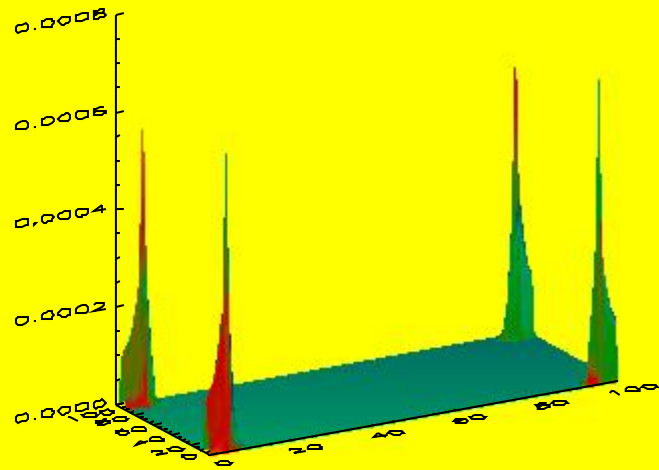
1. Alcak-Gecisli tanjant hiperbolik
 2. Band-Gecisli tanjant hiperbolik
 3. Yuksek-Gecisli tanjant hiperbolik
 4. Band-Durdurucu tanjant hiperbolik
 5. Veriyi degistir
- suzgec numarasini giriniz >2
x yonunde

alcak kesme frekansini ve gecis bolgesi yari uzunlugunu giriniz >2 1
yuksek kesme frekansini ve gecis bolgesi yari uzunlugunu giriniz >7 2
y yonunde

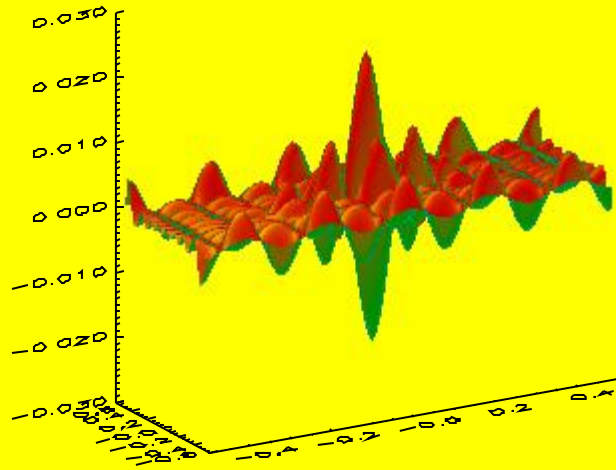
alcak kesme frekansini ve gecis bolgesi yari uzunlugunu giriniz >2 1
yuksek kesme frekansini ve gecis bolgesi yari uzunlugunu giriniz >7 2

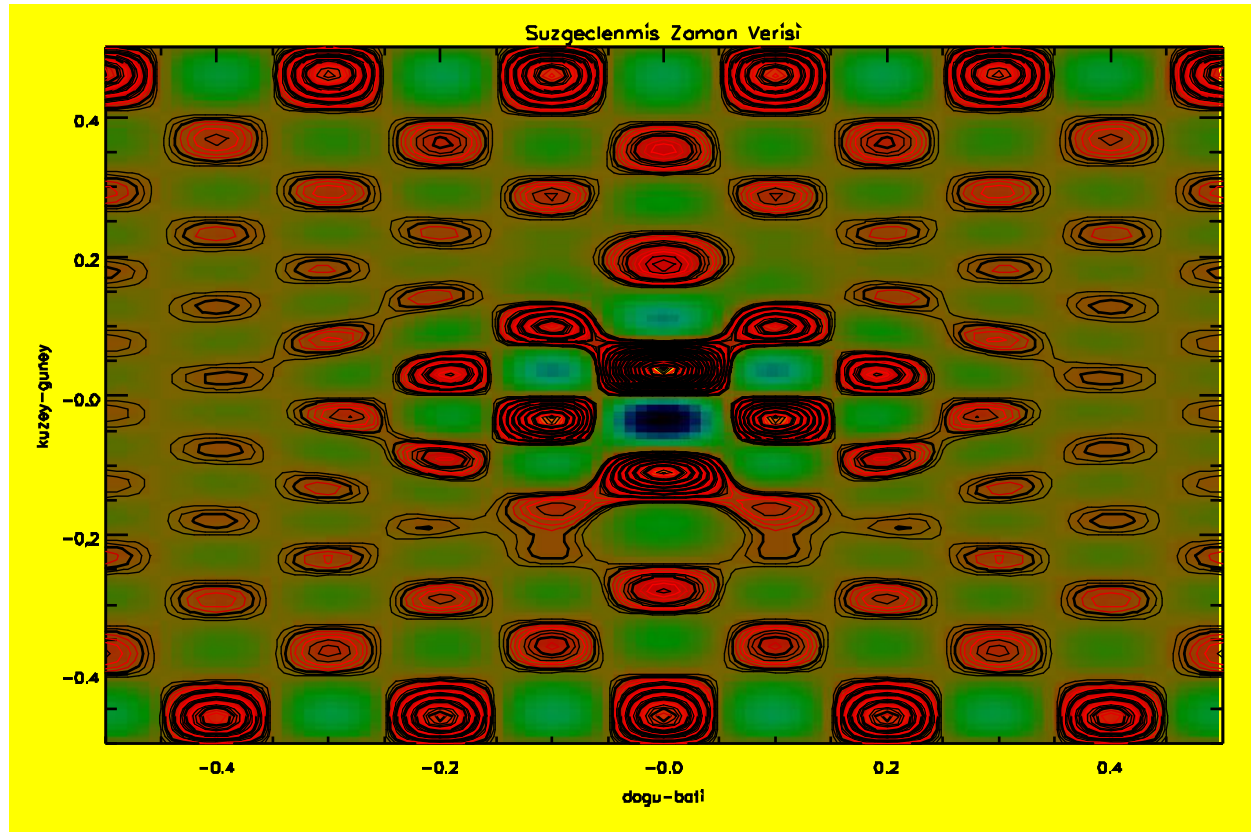
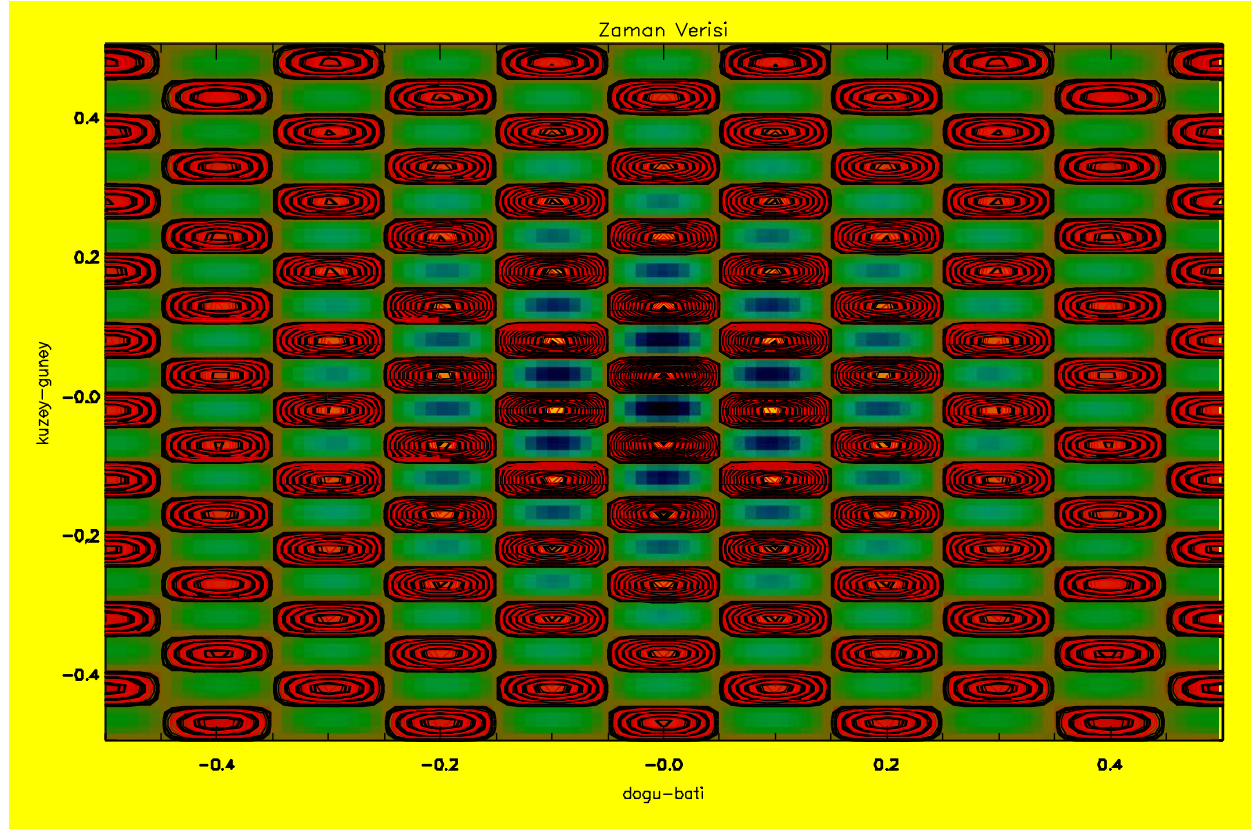


Frekans bölgesinde veri-suzgeç carpımı



Zaman bölgesinde suzgeçlenmiş veri





```
WAVE> .run r2d-fr
```

```
% Compiled module: $MAIN$.
```

```
veri dosyadan okutulacak (1) - sinama verisi (2) - son (3) >1
```

```
dosya no      dosya adi
```

```
1            bg241.xyz
```

```
2            many.xyz
```

```
dosya numarasi giriniz >1
```

```
toplam veri sayisi      2121
```

```
x yonunde_____
```

```
veri sayisi      101
```

```
ornekleme araligi    5.00000
```

```
frekans ornekleme araligi  0.00200000
```

```
Nyquist frekansi     0.100000
```

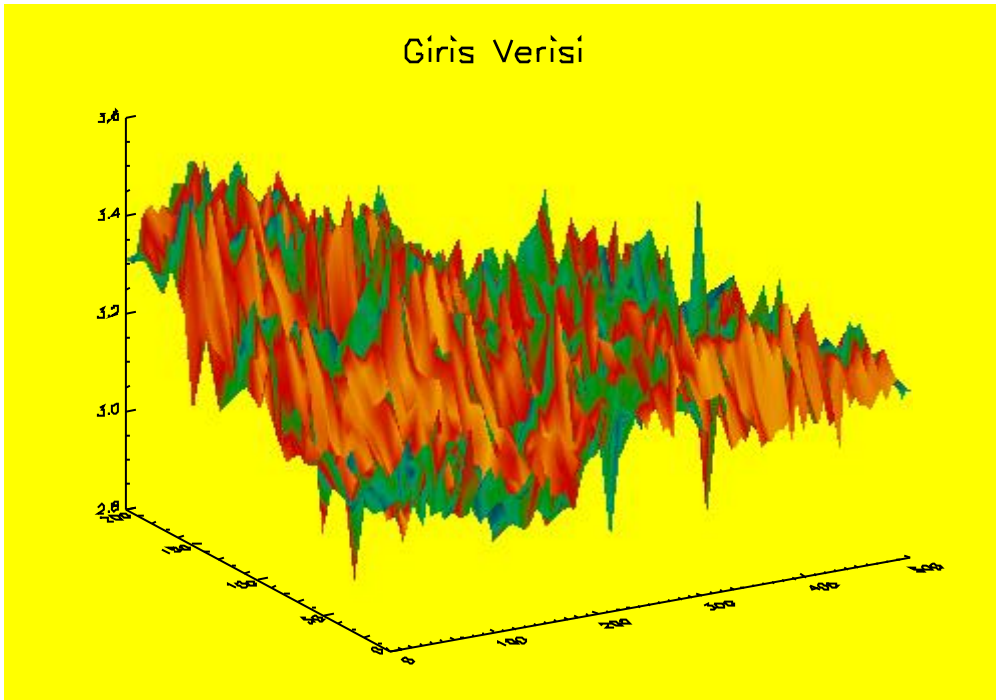
```
y yonunde_____
```

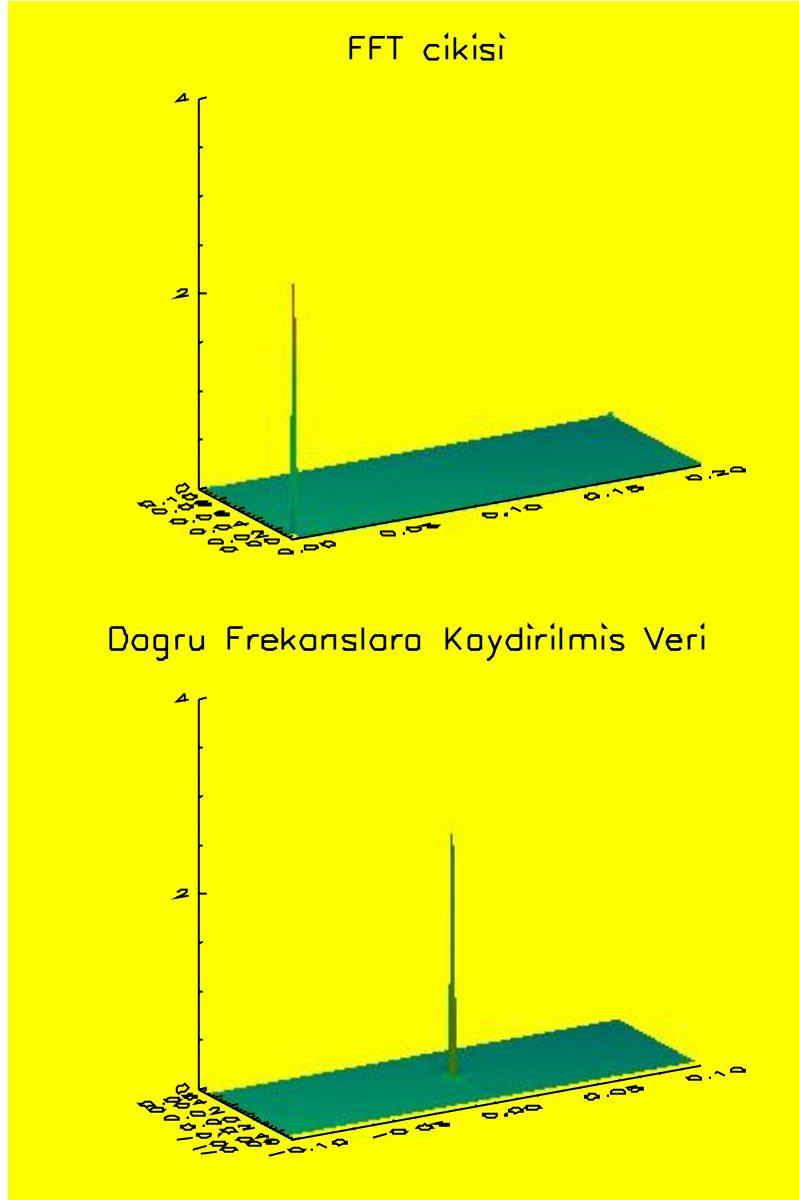
```
veri sayisi       21
```

```
ornekleme araligi    10.0000
```

```
frekans ornekleme araligi  0.00500000
```

```
Nyquist frekansi     0.0500000
```





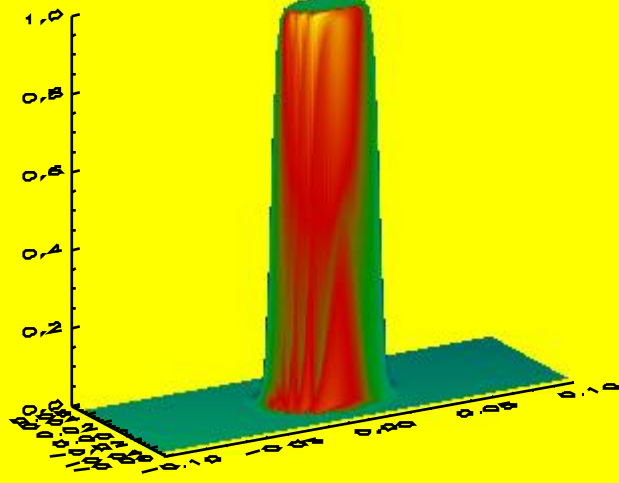
FREKANS SECICI SUZGECIN TURU

1. Alcak-Gecisli tanjant hiperbolik
2. Band-Gecisli tanjant hiperbolik
3. Yuksek-Gecisli tanjant hiperbolik
4. Band-Durdurucu tanjant hiperbolik
5. Veriyi degistir

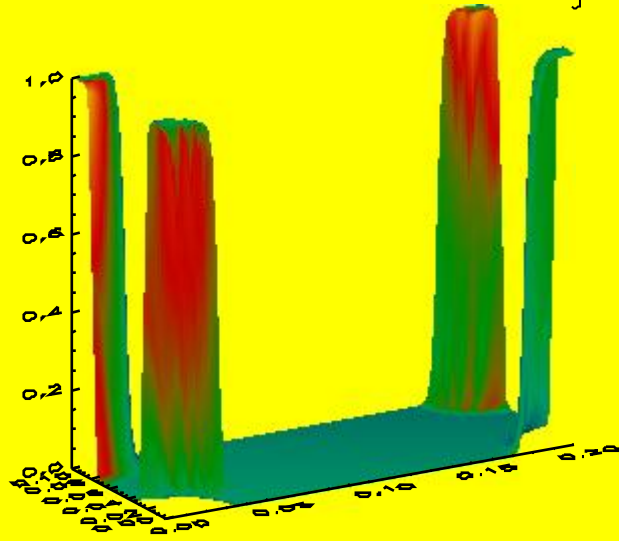
suzgec numarasini giriniz >1

alcak kesme frekansini ve gecis bolgesi yari uzunlugunu giriniz >0.025 0.005

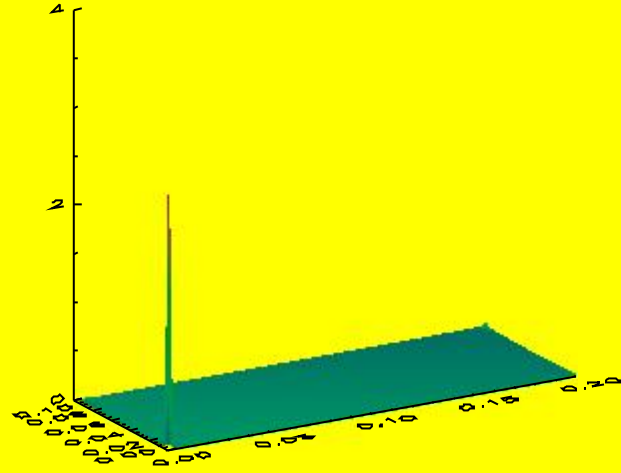
Alcak-Gecisli (tanjant hiperbolik)
Suzgec Belirtkeni



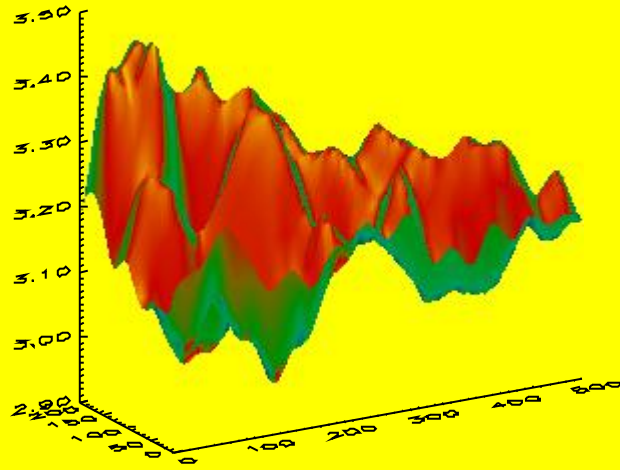
FFT frekanslarında tanımlanmış Suzgec

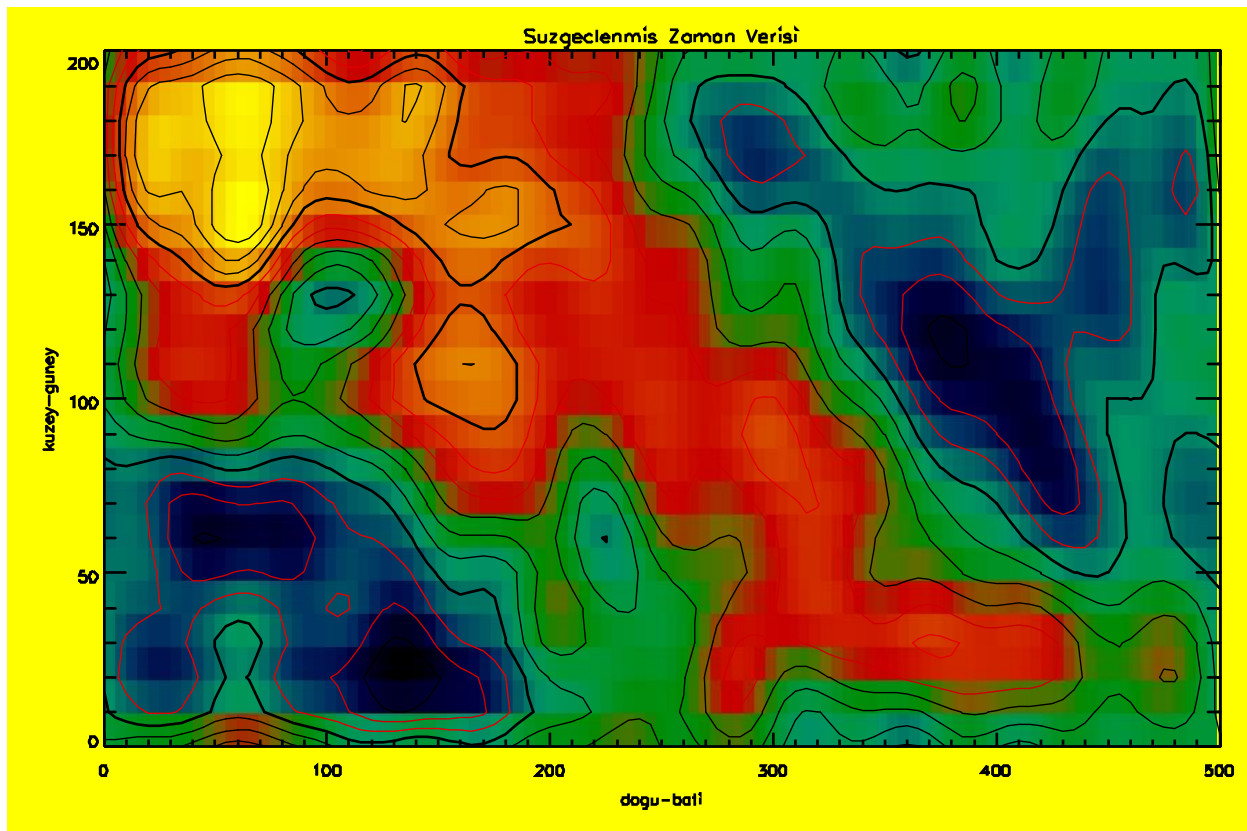
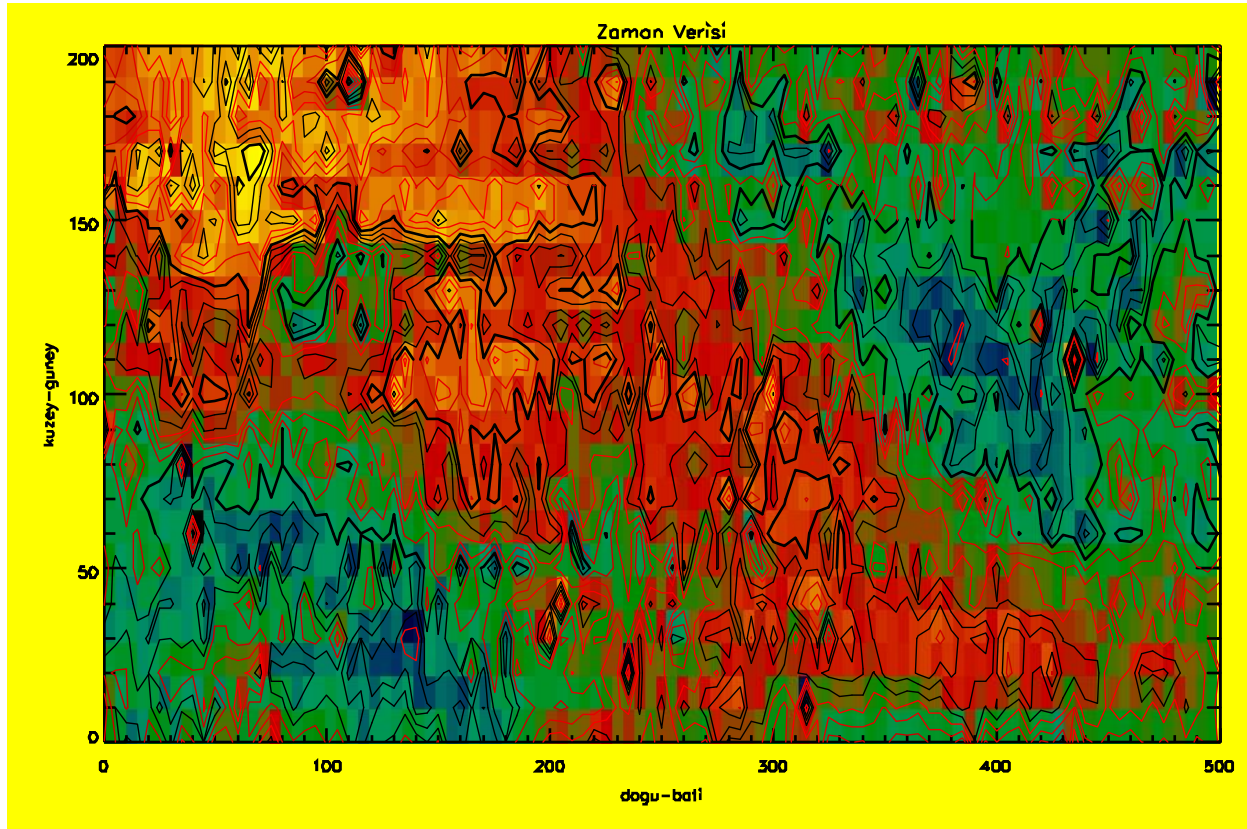


Frekans bölgesinde veri-suzgeç carpimi



Zaman bölgesinde suzgeçlenmiş veri





veri dosyadan okutulacak (1) - sinama verisi (2) - son (3) >2

$$r = \sqrt{x^2 + y^2}$$

$$1. z = \exp(-\text{alfa} * r) * (a * \cos(f1 * r) + b * \sin(f2 * r))$$

2. $z = \exp(-\alpha * r) * (a * \cos(f1 * x) + b * \sin(f2 * y))$

3. $z = \exp(-\alpha * r) * a * \cos(f1 * x) * b * \sin(f2 * y)$

4. Baslangic

kuramsal verinin numarasini giriniz >1

ornekleme araligini giriniz >0.01

a ve b katsayilarini giriniz >0.5 0.5

sadece sinüzoidal icin alfa=0

alfa katsayisini giriniz >5

veri sayisi 101.000

ornekleme araligi 0.0100000

frekans ornekleme araligi 1.00000

Nyquist frekansi 50.0000

iki adet frekans degeri giriniz >0.1 10

toplam veri sayisi 10201.0

x yonunde_____

veri sayisi 101.000

ornekleme araligi 0.0100000

frekans ornekleme araligi 1.00000

Nyquist frekansi 50.0000

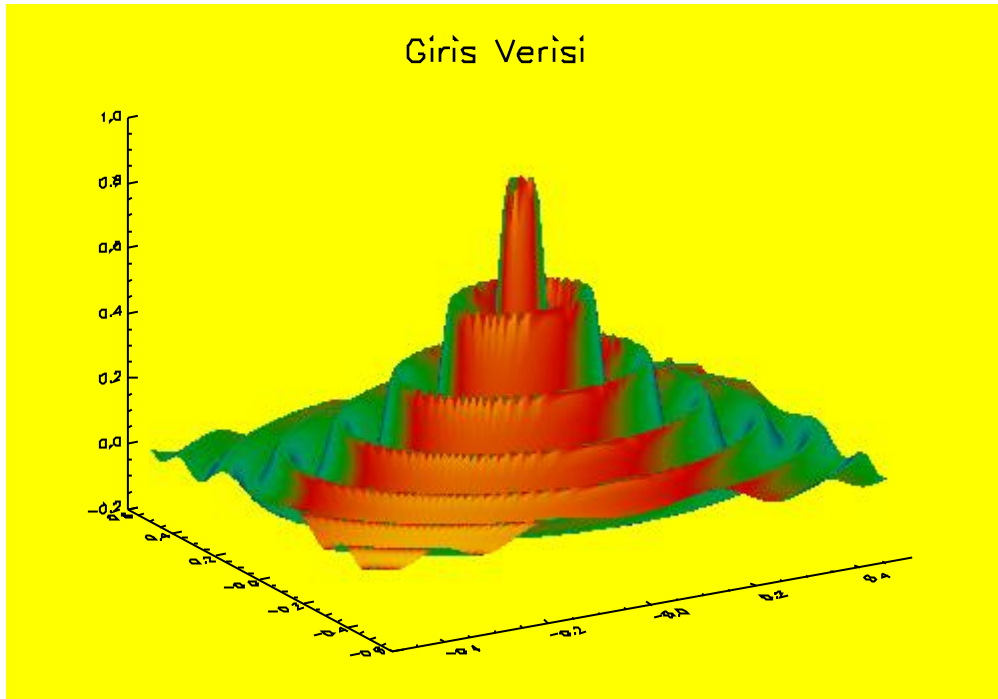
y yonunde_____

veri sayisi 101.000

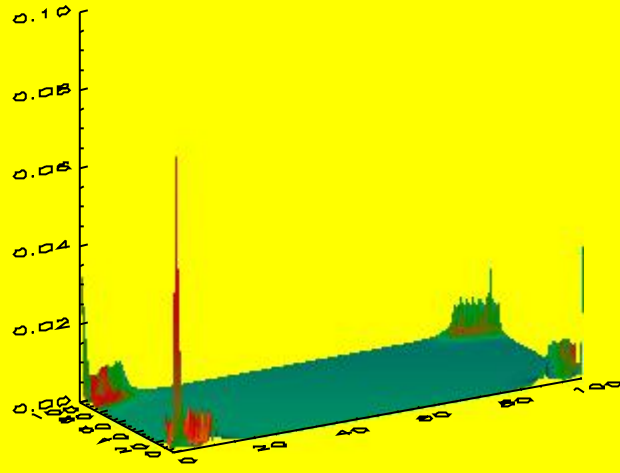
ornekleme araligi 0.0100000

frekans ornekleme araligi 1.00000

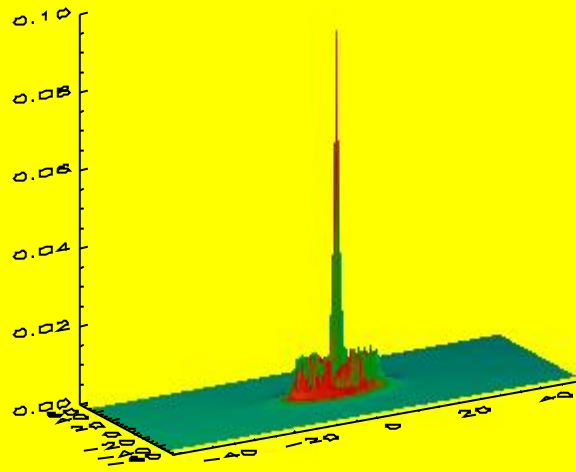
Nyquist frekansi 50.0000



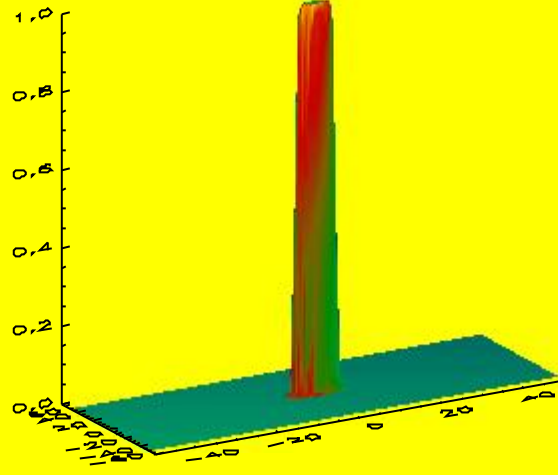
FFT cikisi



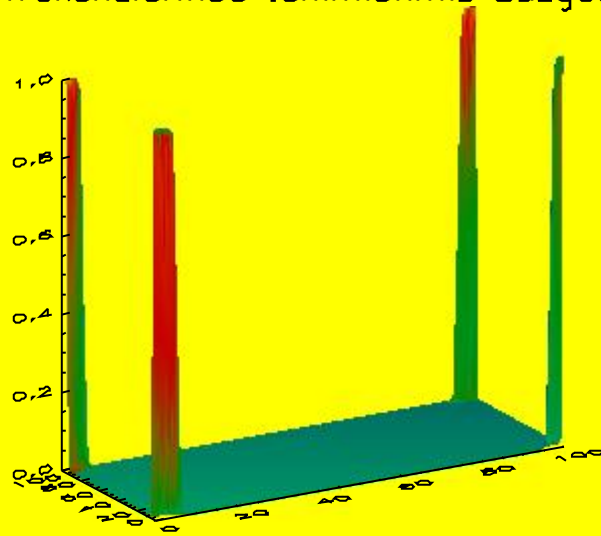
Dogru Frekanslara Kaydirilmis Veri



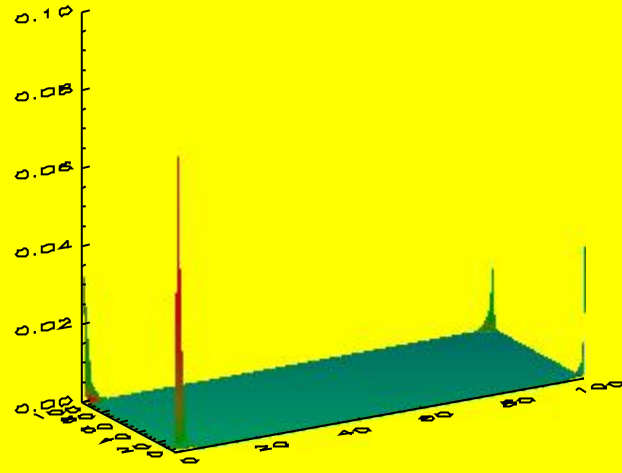
Alcok-Gecisli (tanjant hiperbolik) Suzgec Belirtkeni



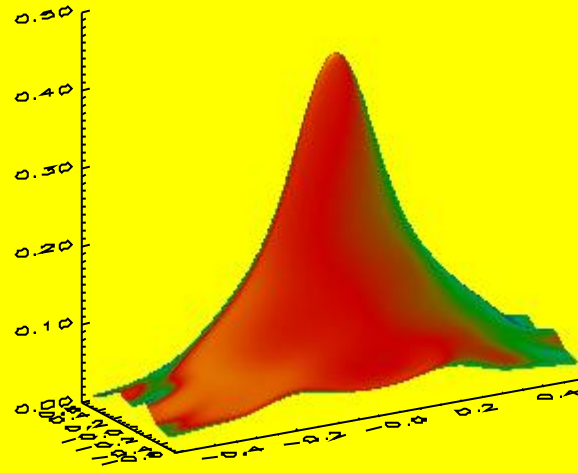
FFT frekanslarında tanımlanmış Suzgec

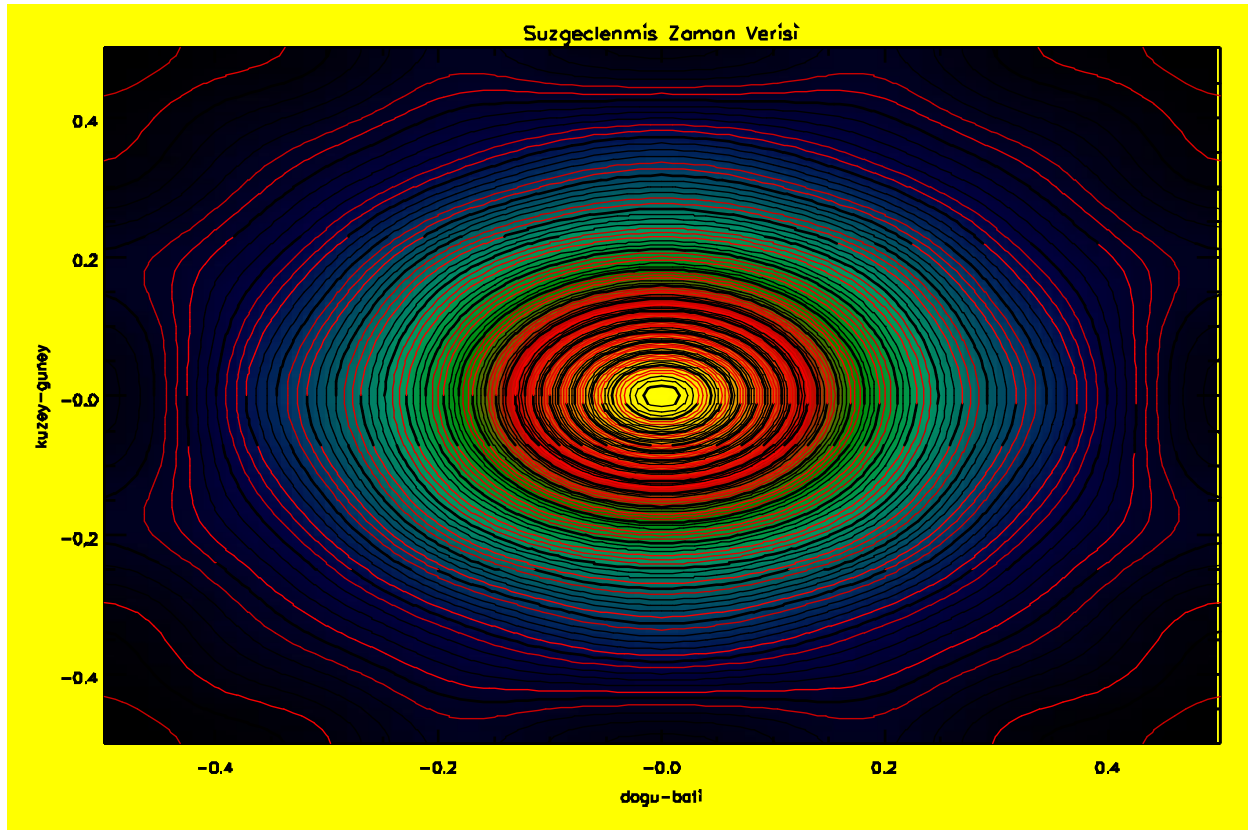
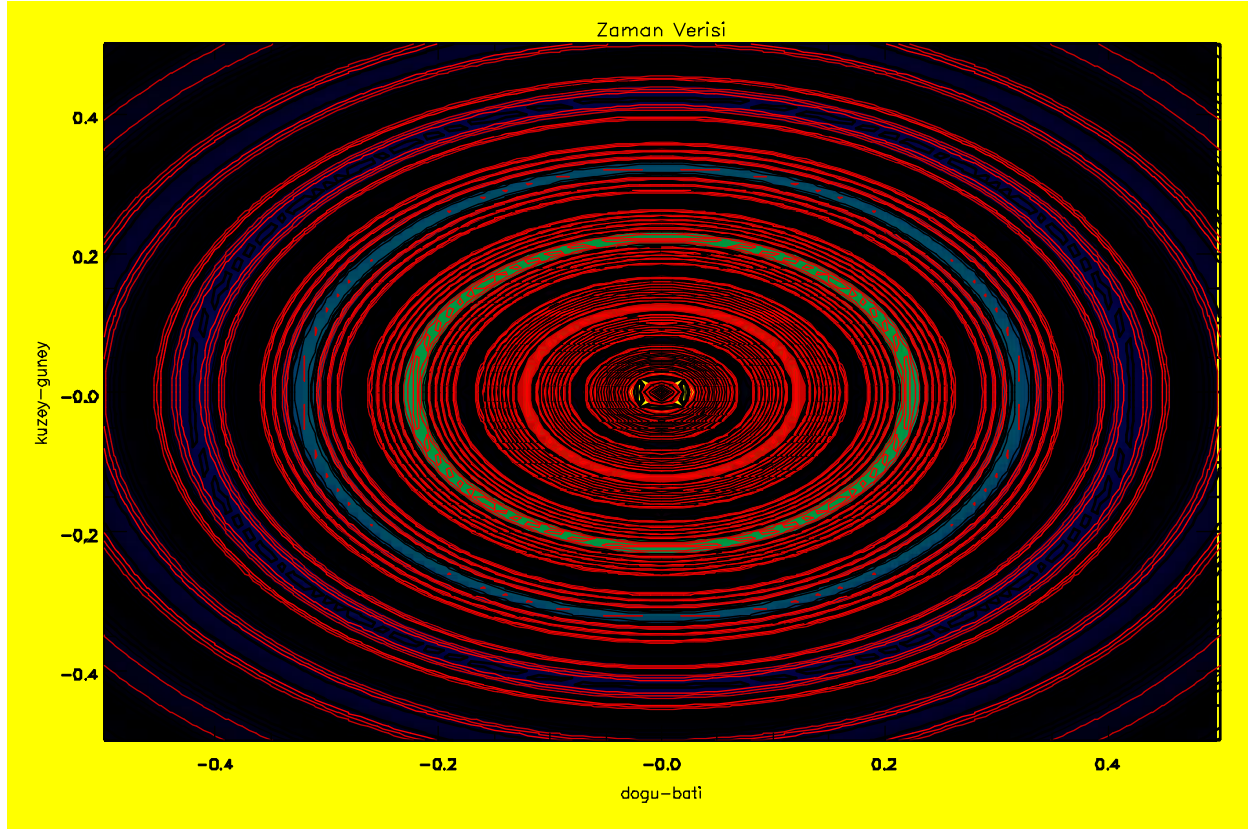


Frekans bölgesinde veri-suzgeç carpimi



Zaman bölgesinde suzgeçlenmiş veri

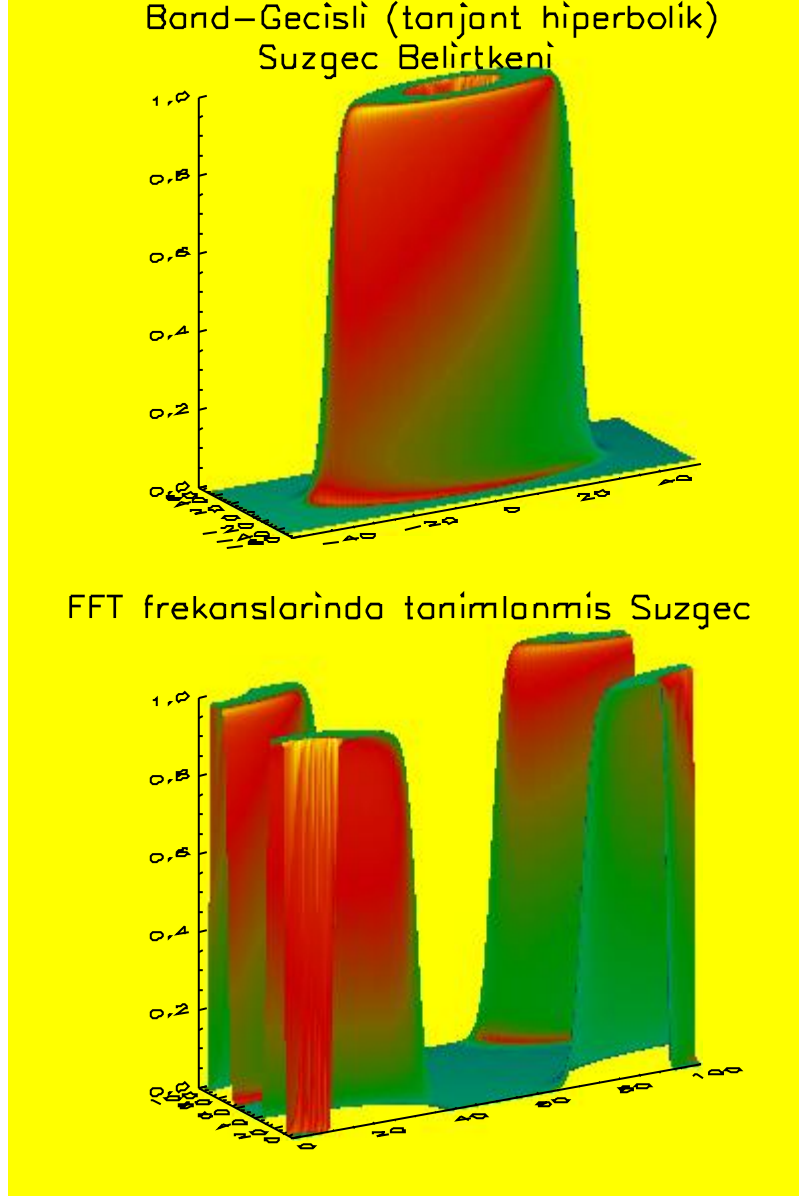




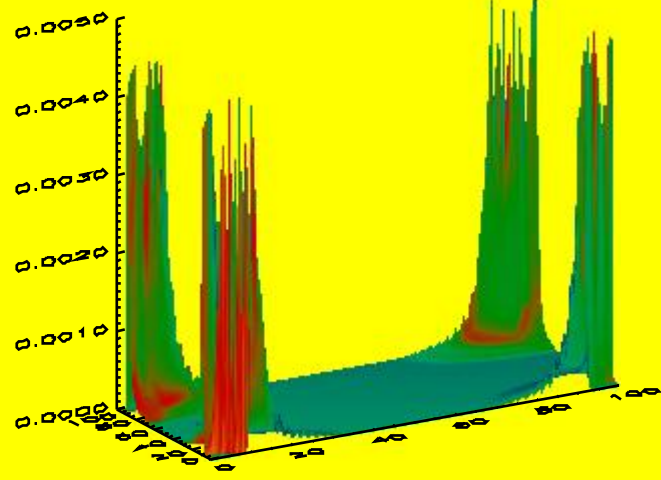
FREKANS SECICI SUZGECIN TURU

1. Alcak-Gecisli tanjant hiperbolik
2. Band-Gecisli tanjant hiperbolik

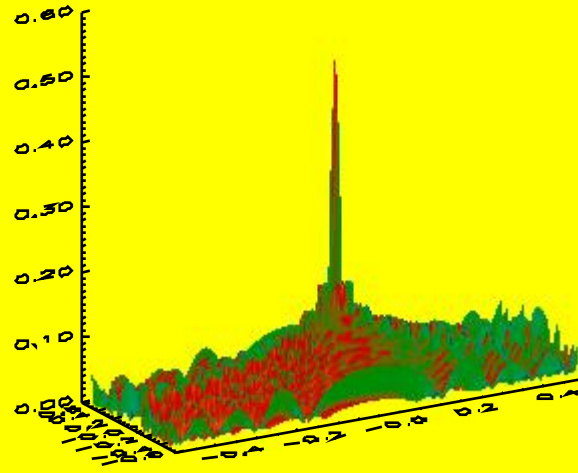
3. Yuksek-Gecisli tanjant hiperbolik
4. Band-Durdurucu tanjant hiperbolik
5. Veriyi degistir
suzgec numarasini giriniz >2
alcak kesme frekansini ve gecis bolgesi yari uzunlugunu giriniz >10 1
yuksek kesme frekansini ve gecis bolgesi yari uzunlugunu giriniz >30 5

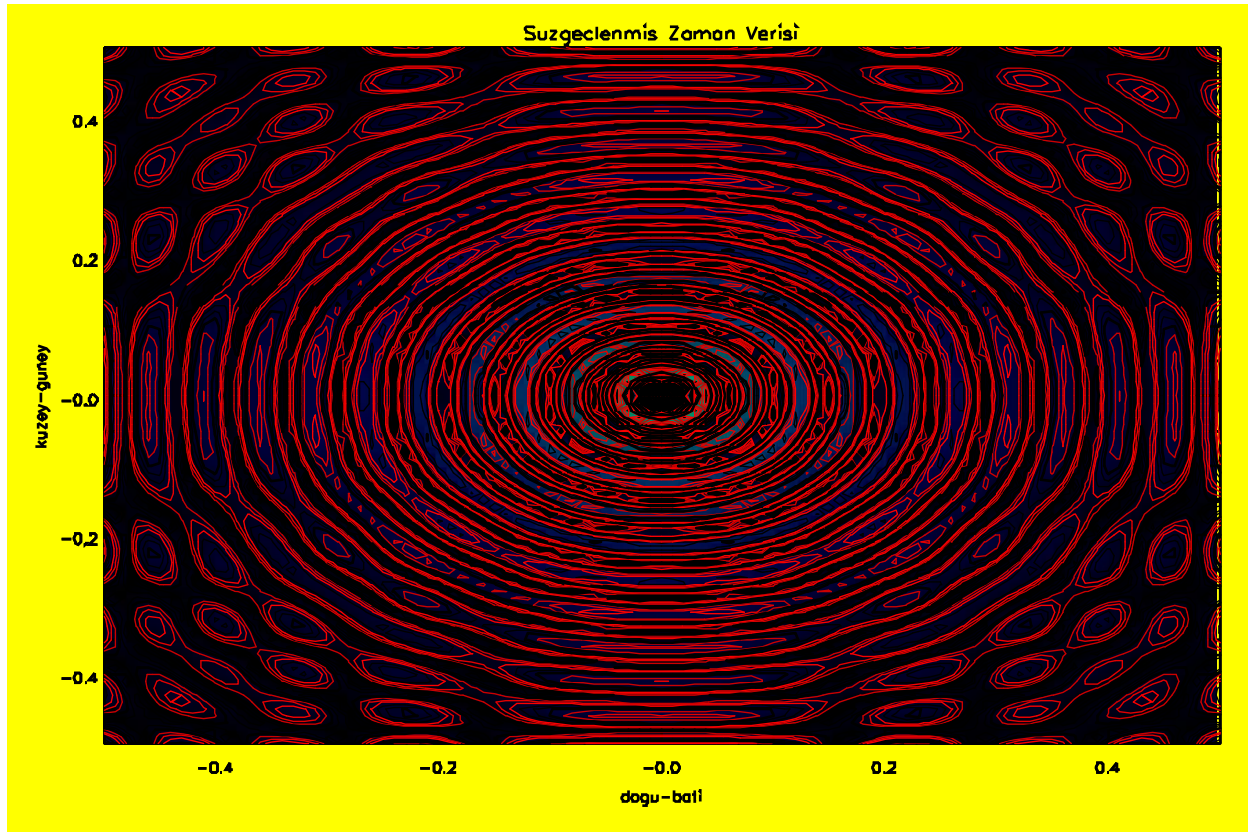
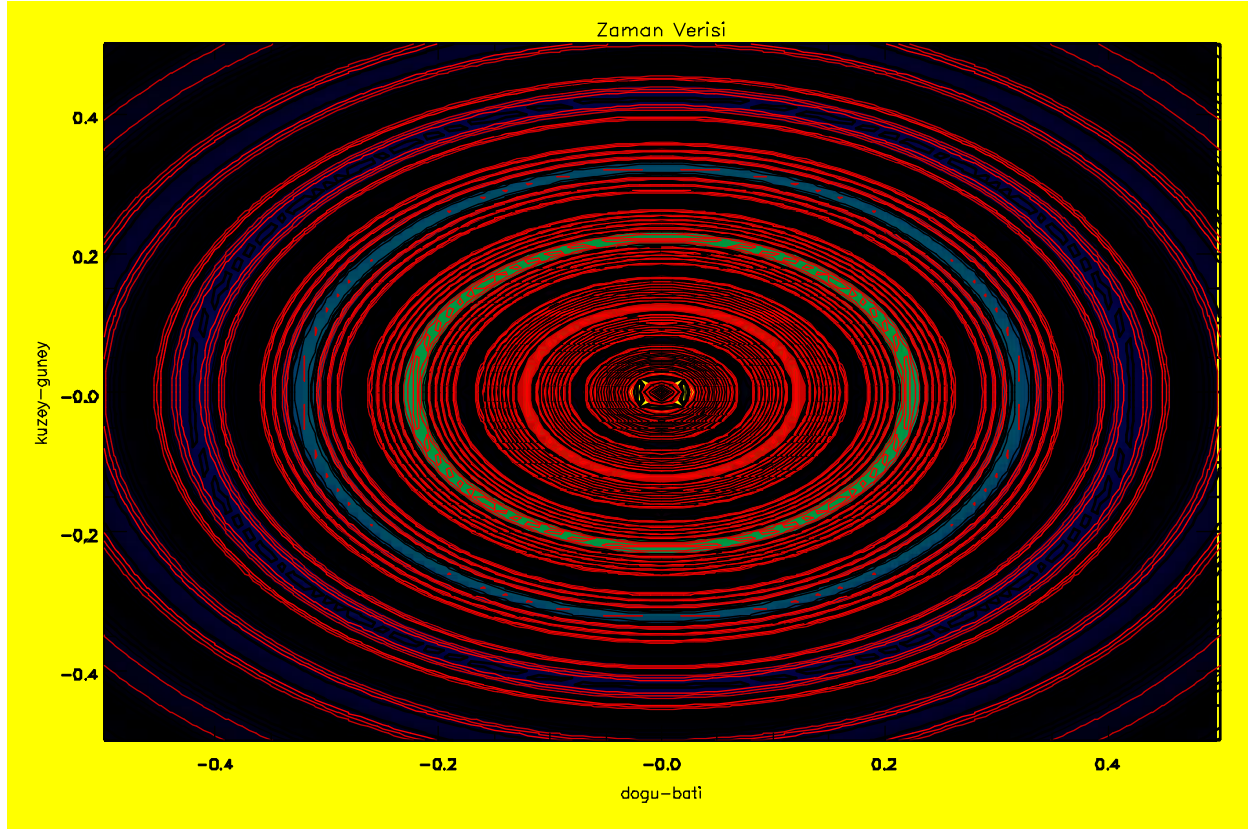


Frekans bölgesinde veri-suzgeç carpimi



Zaman bölgesinde suzgeçlenmiş veri

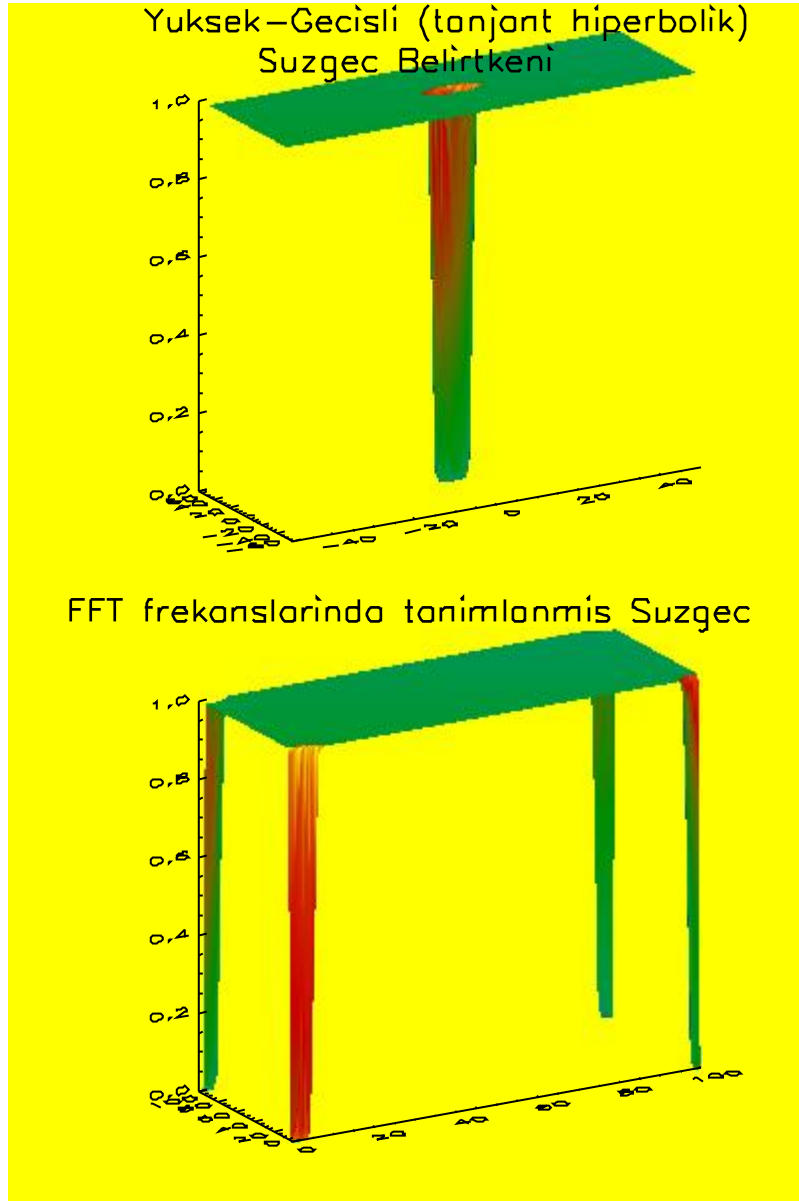




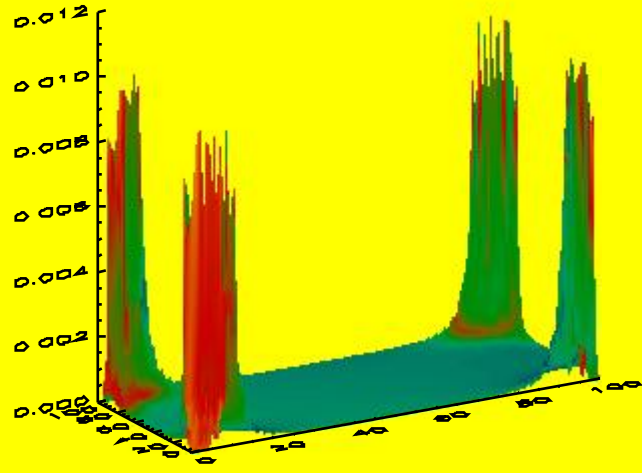
FREKANS SECICI SUZGECIN TURU

1. Alcak-Gecisli tanjant hiperbolik
2. Band-Gecisli tanjant hiperbolik

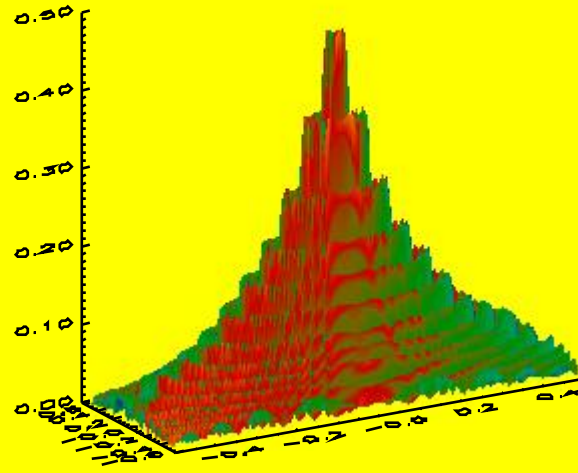
3. Yuksek-Gecisli tanjant hiperbolik
4. Band-Durdurucu tanjant hiperbolik
5. Veriyi degistir
suzgec numarasini giriniz >3
yuksek kesme frekansini ve gecis bolgesi yari uzunlugunu giriniz >5 1

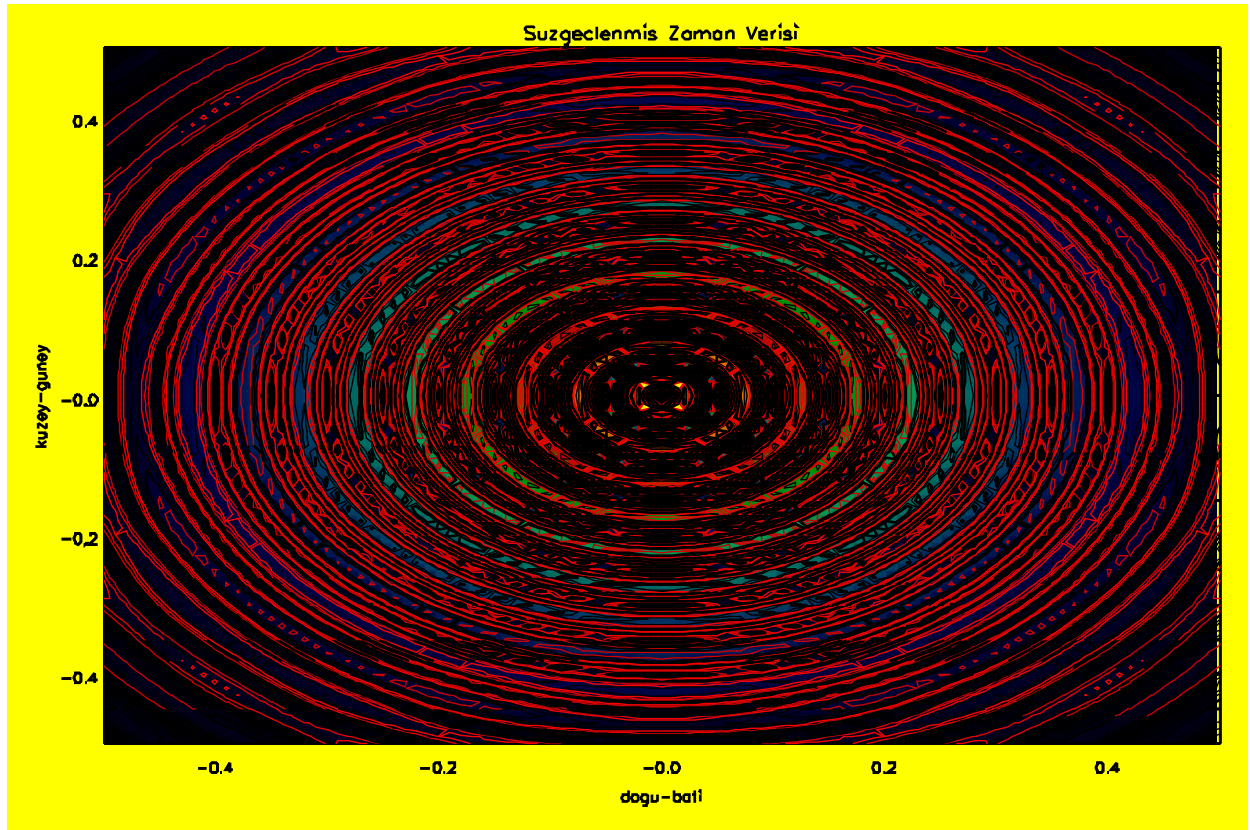
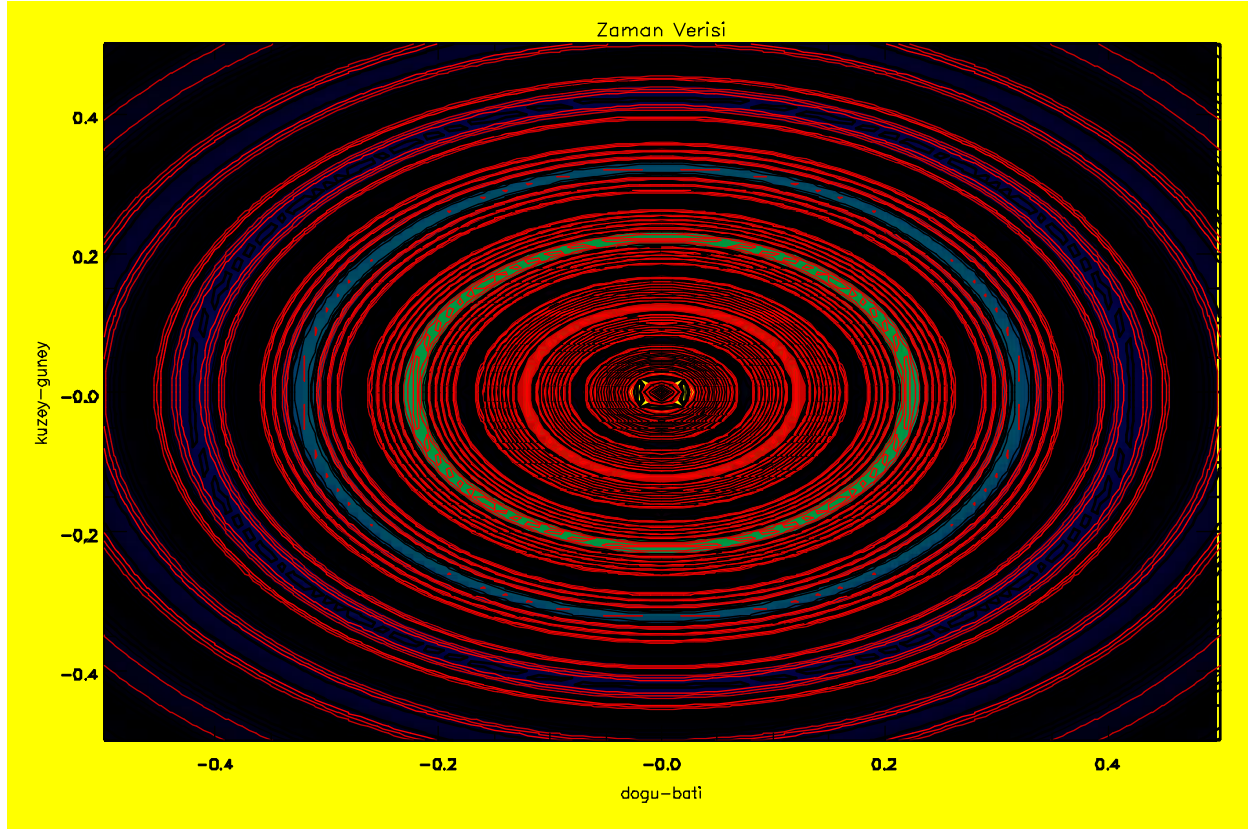


Frekans bölgesinde veri-suzgeç carpımı



Zaman bölgesinde suzgeçlenmiş veri

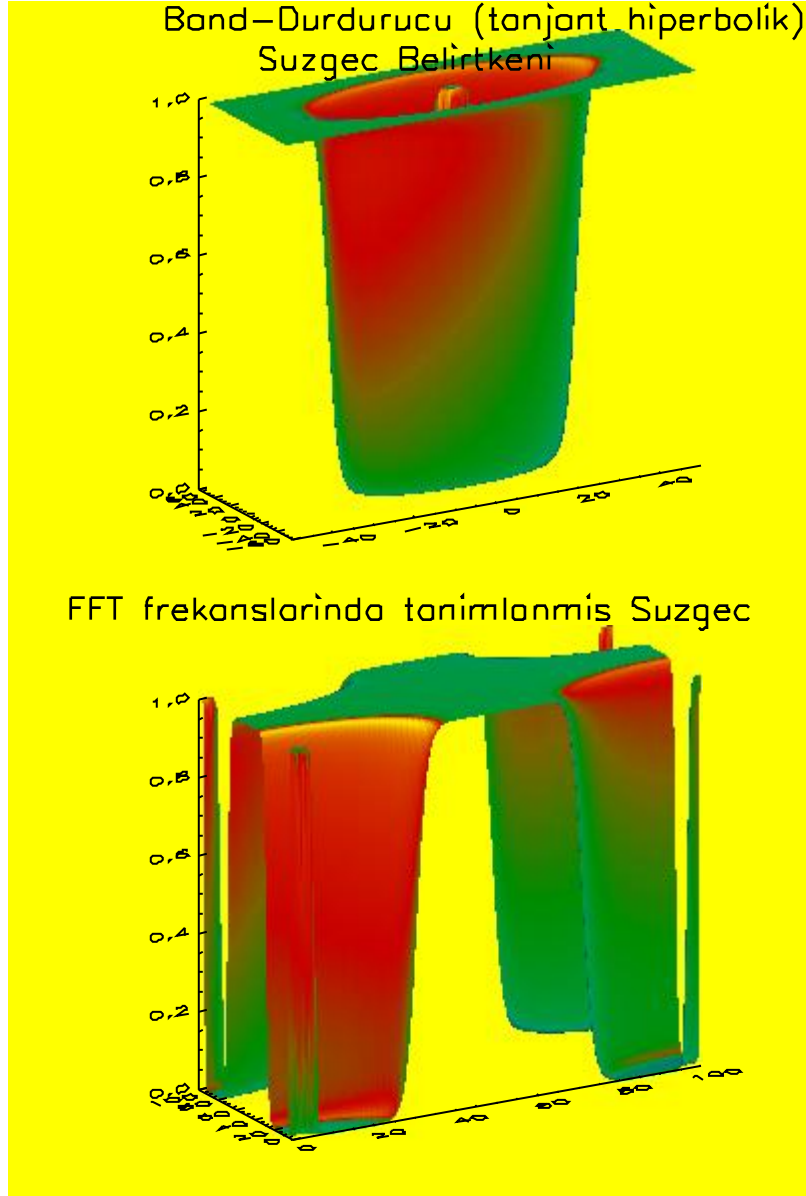




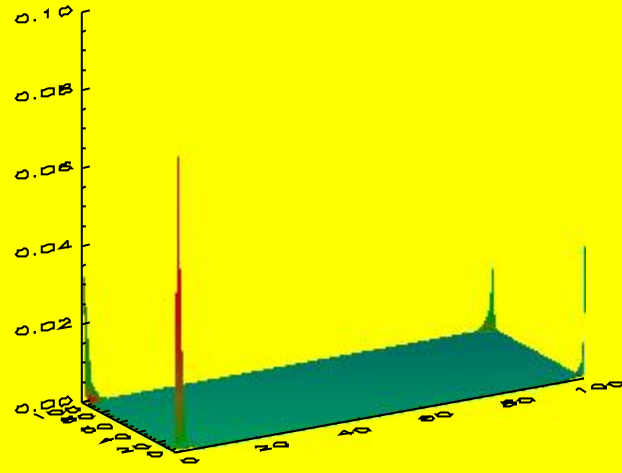
FREKANS SECICI SUZGECIN TURU

1. Alcak-Gecisli tanjant hiperbolik
2. Band-Gecisli tanjant hiperbolik

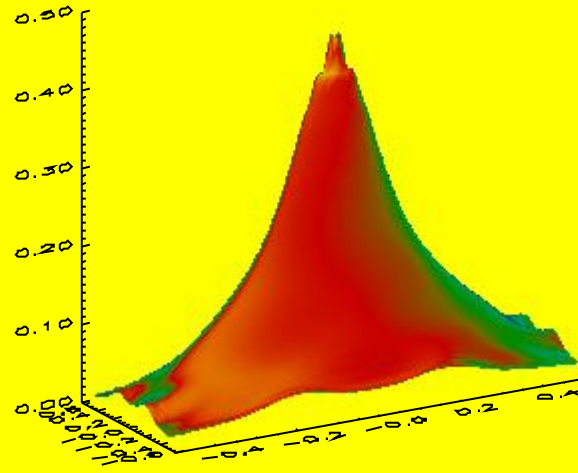
3. Yuksek-Gecisli tanjant hiperbolik
4. Band-Durdurucu tanjant hiperbolik
5. Veriyi degistir
suzgec numarasini giriniz >4
alcak kesme frekansini ve gecis bolgesi yari uzunlugunu giriniz >5 1
yuksek kesme frekansini ve gecis bolgesi yari uzunlugunu giriniz >30 5

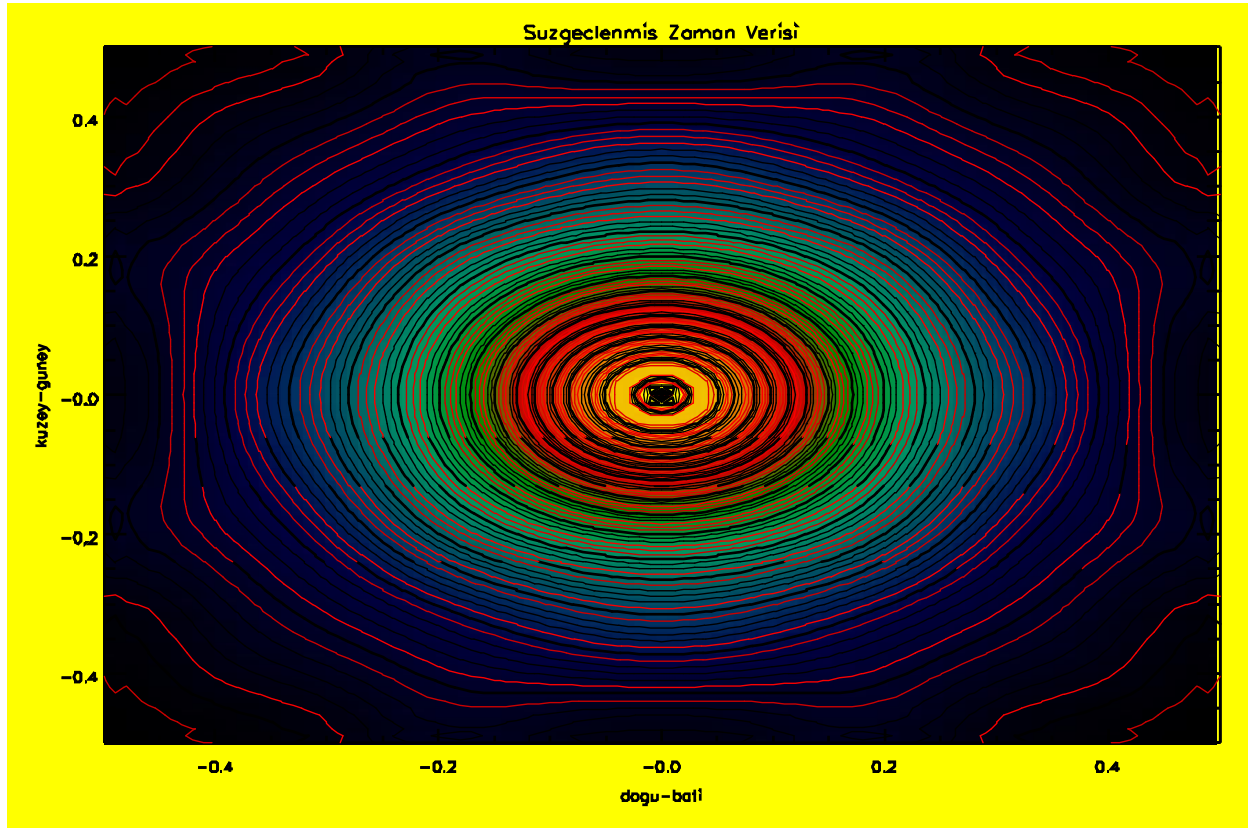
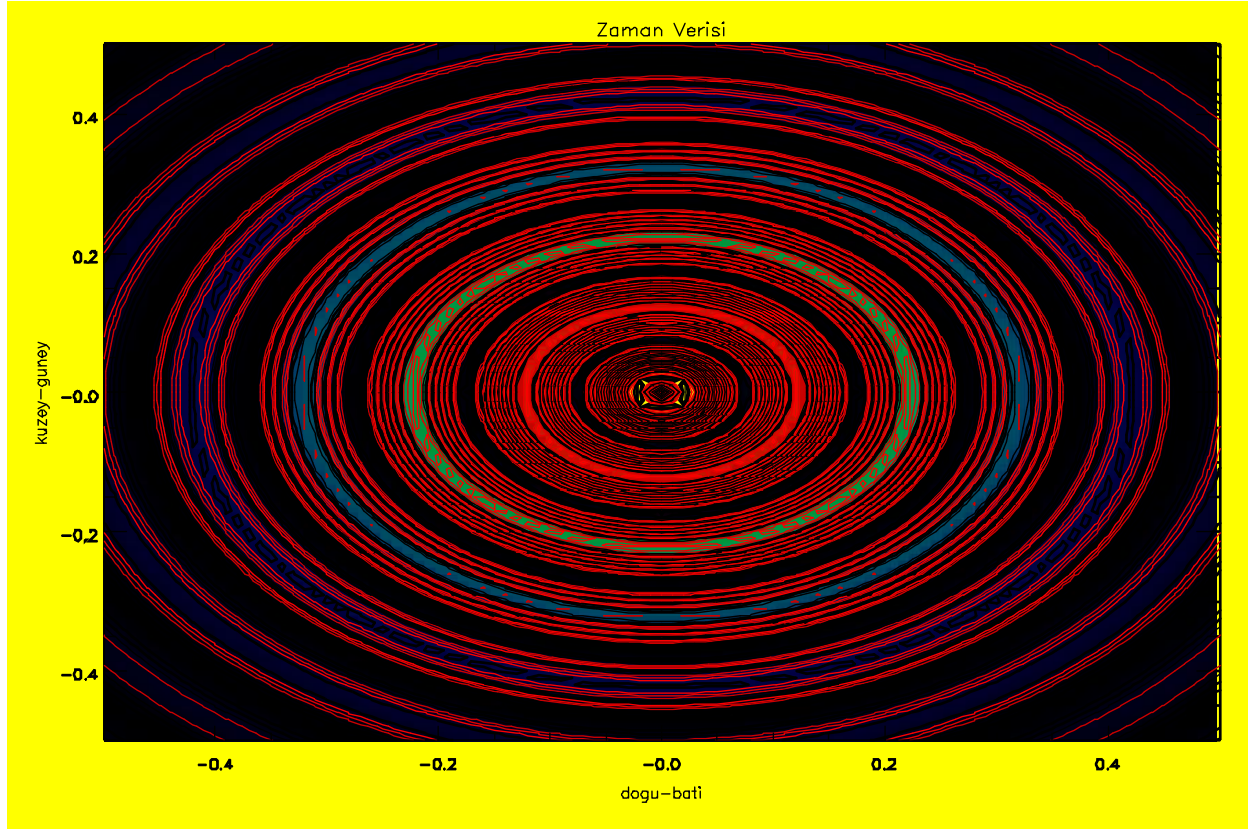


Frekans bölgesinde veri-suzgeç carpımı



Zaman bölgesinde suzgeçlenmiş veri





veri dosyadan okutulacak (1) - sinama verisi (2) - son (3) 2
 $r = \sqrt{x^2 + y^2}$
1. $z = \exp(-\text{alfa} * r) * (a * \cos(f1 * r) + b * \sin(f2 * r))$

2. $z = \exp(-\alpha * r) * (a * \cos(f1 * x) + b * \sin(f2 * y))$

3. $z = \exp(-\alpha * r) * a * \cos(f1 * x) * b * \sin(f2 * y)$

4. Baslangic

kuramsal verinin numarasini giriniz >2

ornekleme araligini giriniz >0.01

a ve b katsayilarini giriniz >1 1

sadece sinüzoidal icin alfa=0

alfa katsayisini giriniz >3

veri sayisi 101.000

ornekleme araligi 0.0100000

frekans ornekleme araligi 1.00000

Nyquist frekansi 50.0000

iki adet frekans degeri giriniz >5 10

dondurme acisi >0

toplam veri sayisi 10201.0

x yonunde ____

veri sayisi 101.000

ornekleme araligi 0.0100000

frekans ornekleme araligi 1.00000

Nyquist frekansi 50.0000

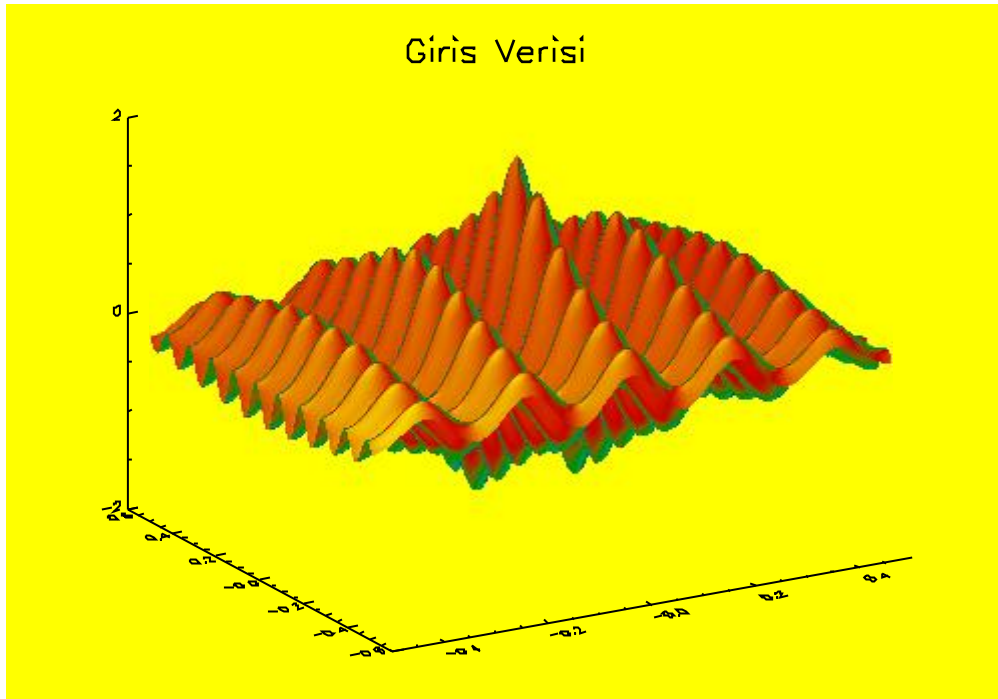
y yonunde ____

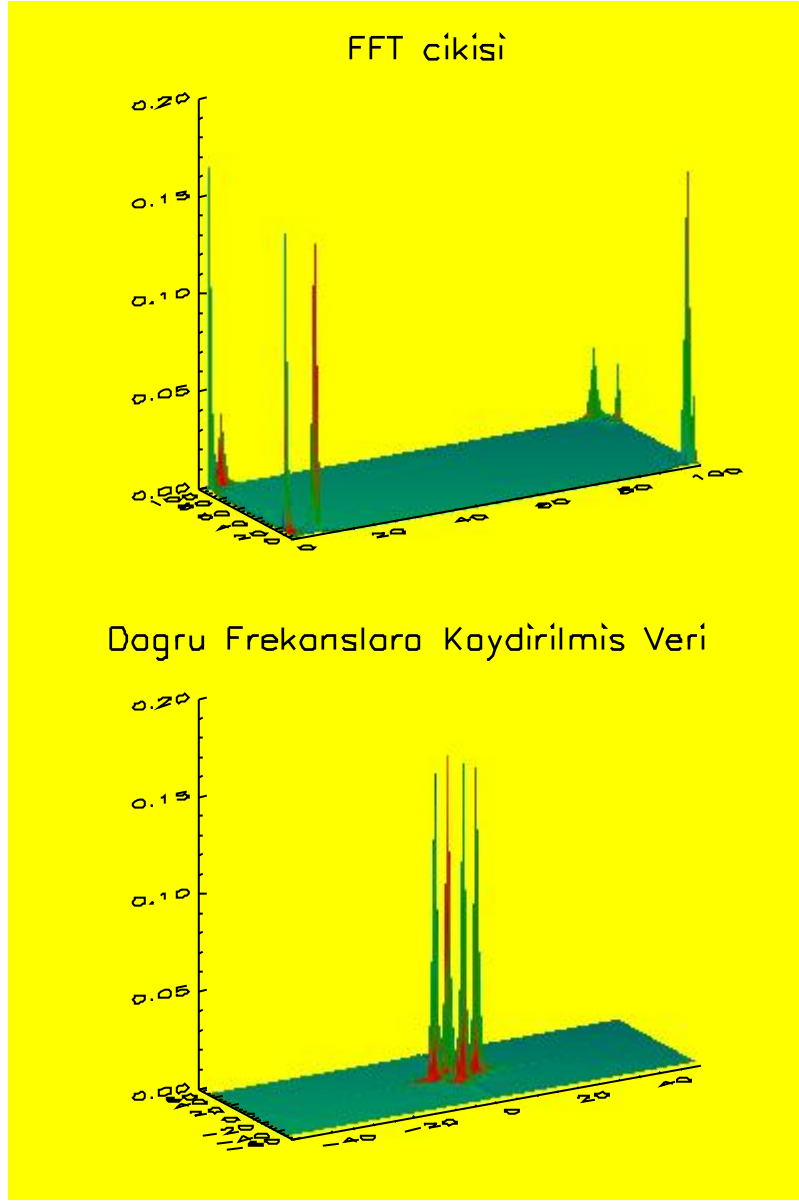
veri sayisi 101.000

ornekleme araligi 0.0100000

frekans ornekleme araligi 1.00000

Nyquist frekansi 50.0000





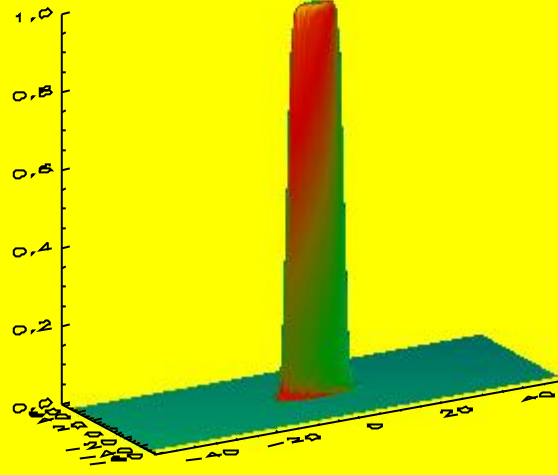
FREKANS SECICI SUZGECIN TURU

1. Alcak-Gecisli tanjant hiperbolik
2. Band-Gecisli tanjant hiperbolik
3. Yuksek-Gecisli tanjant hiperbolik
4. Band-Durdurucu tanjant hiperbolik
5. Veriyi degistir

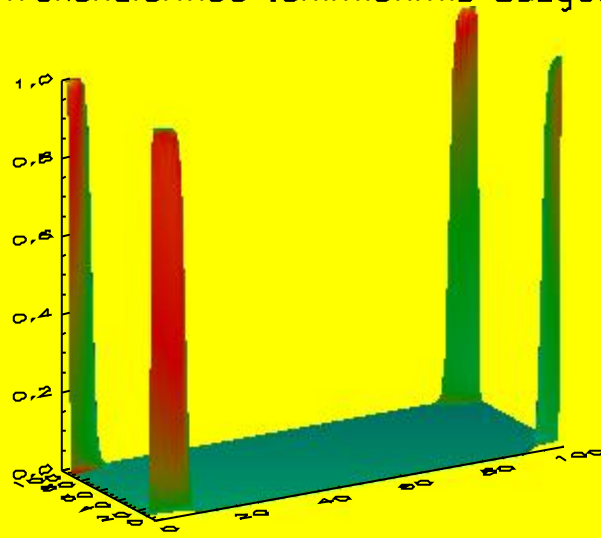
suzgec numarasini giriniz >1

alcak kesme frekansini ve gecis bolgesi yari uzunlugunu giriniz >7 2

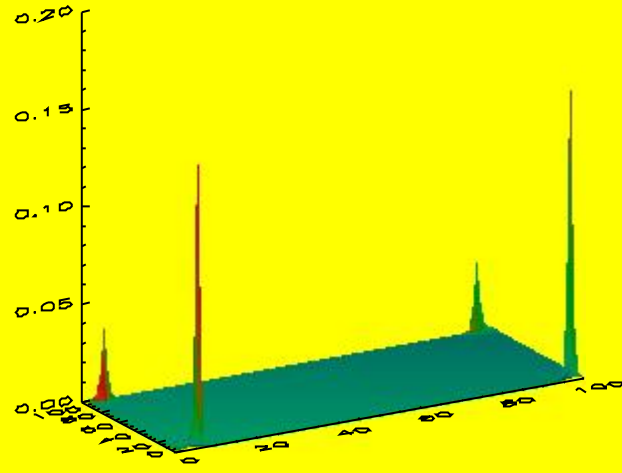
Alcok-Gecisli (tanjant hiperbolik) Suzgec Belirtkeni



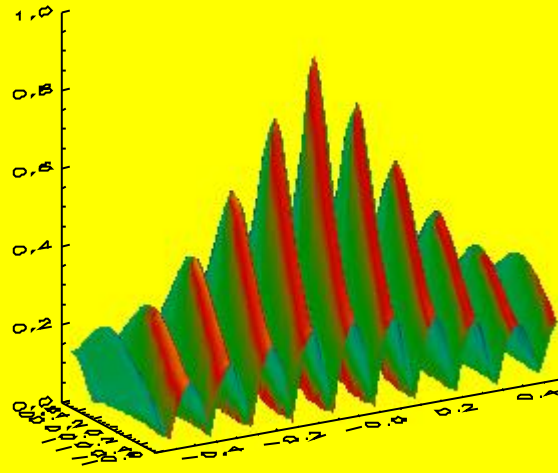
FFT frekanslarında tanımlanmış Suzgec

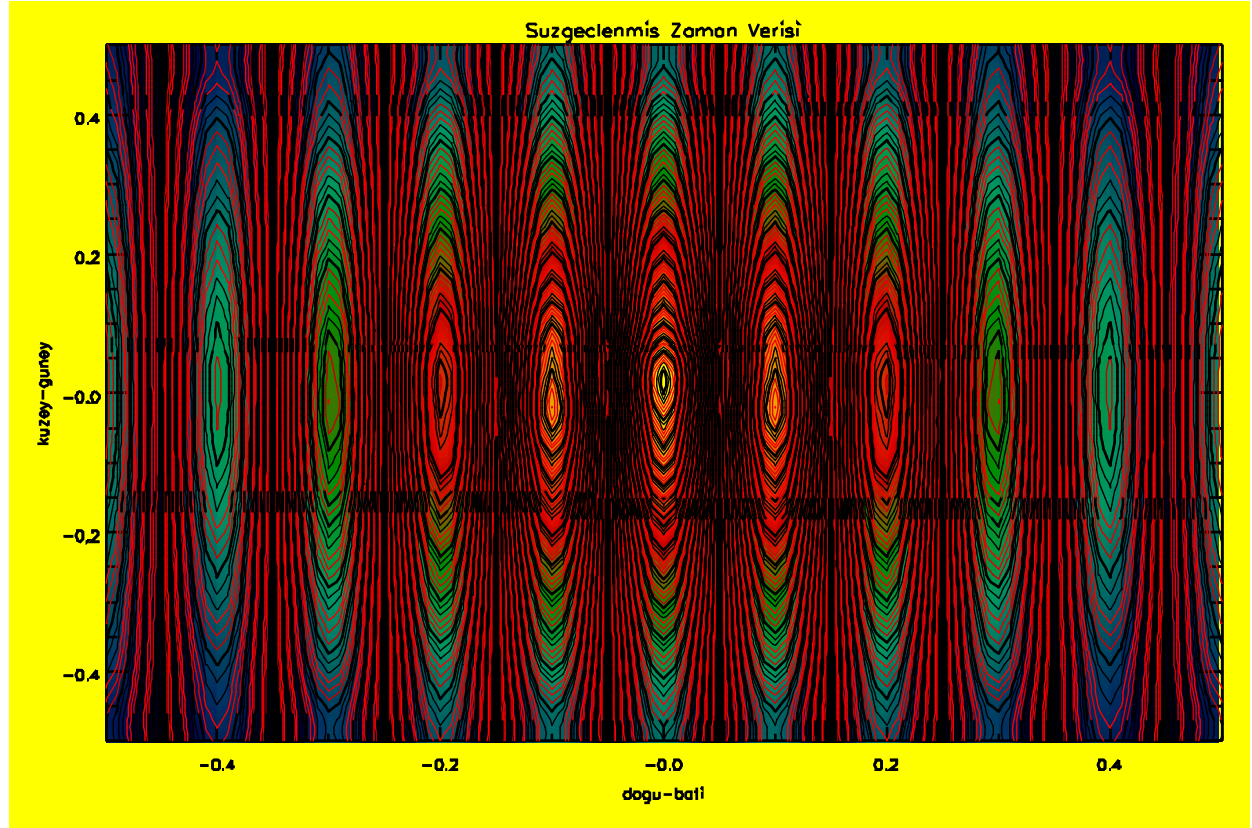
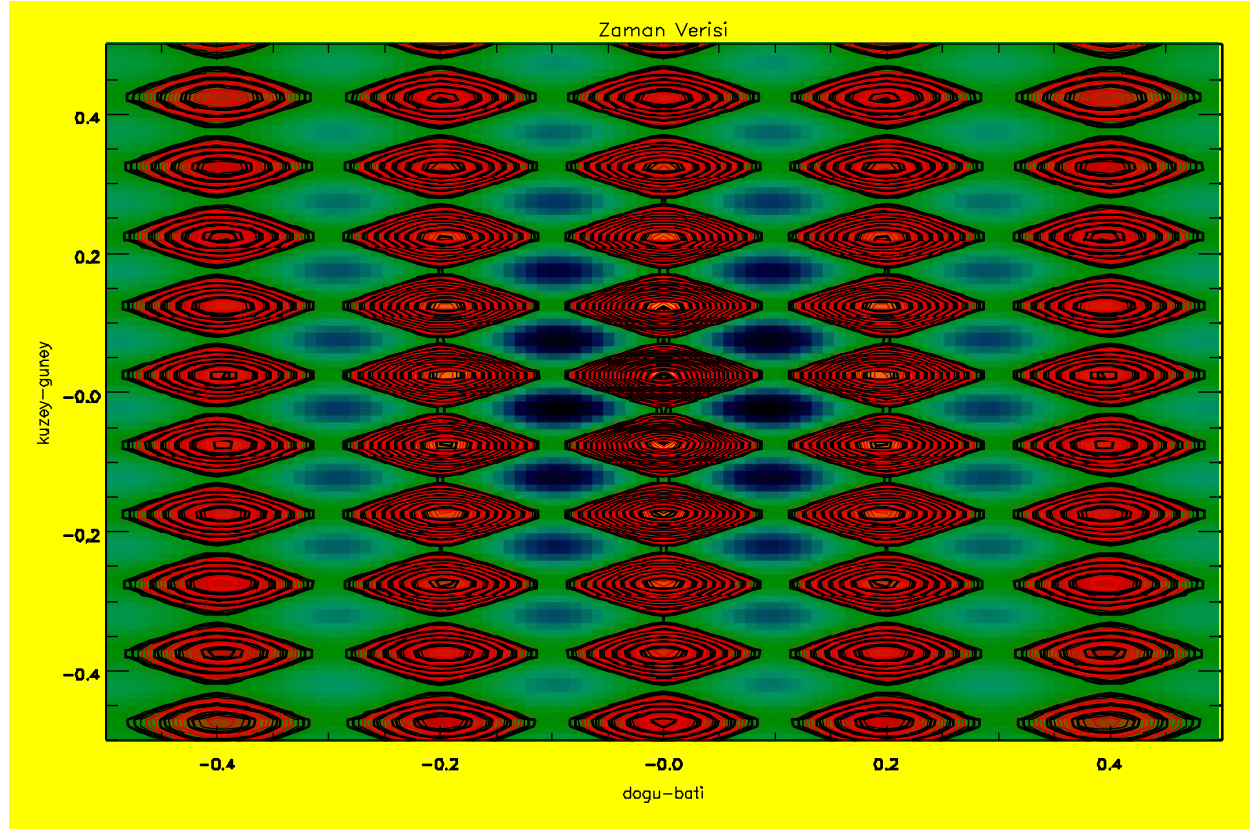


Frekans bölgesinde veri-suzgeç carpimi



Zaman bölgesinde suzgeçlenmiş veri





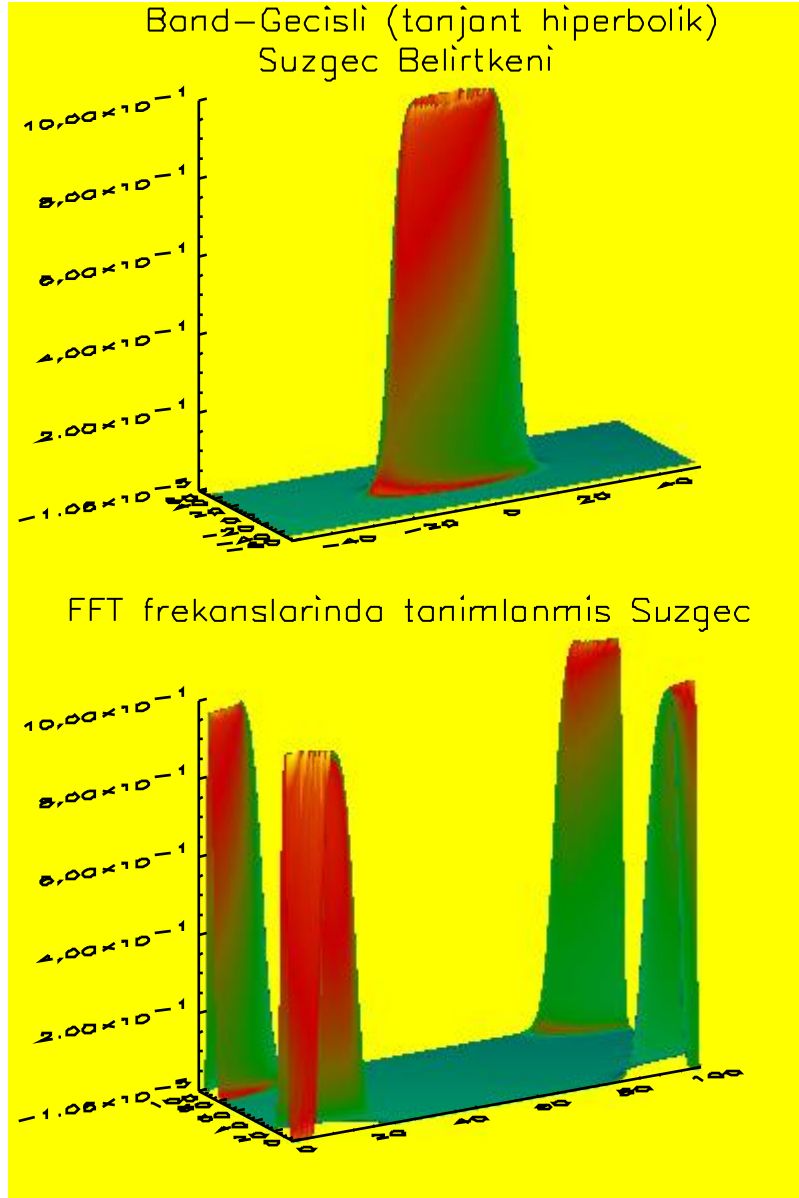
FREKANS SECICI SUZGECIN TURU
1. Alcak-Gecisli tanjant hiperbolik

2. Band-Gecisli tanjant hiperbolik
3. Yuksek-Gecisli tanjant hiperbolik
4. Band-Durdurucu tanjant hiperbolik
5. Veriyi degistir

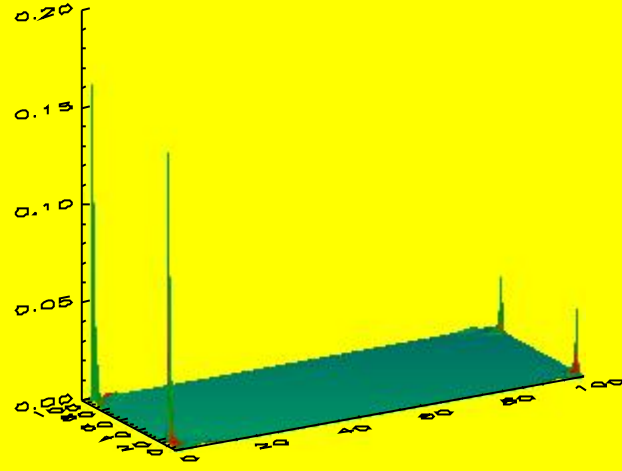
suzgec numarasini giriniz >2

alcak kesme frekansini ve gecis bolgesi yari uzunlugunu giriniz >7 2

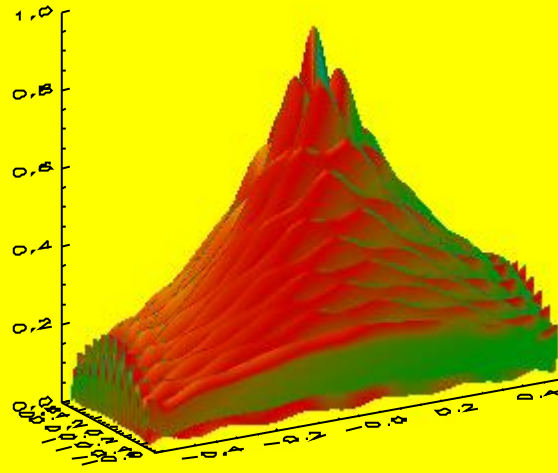
yukse kesme frekansini ve gecis bolgesi yari uzunlugunu giriniz >15 5

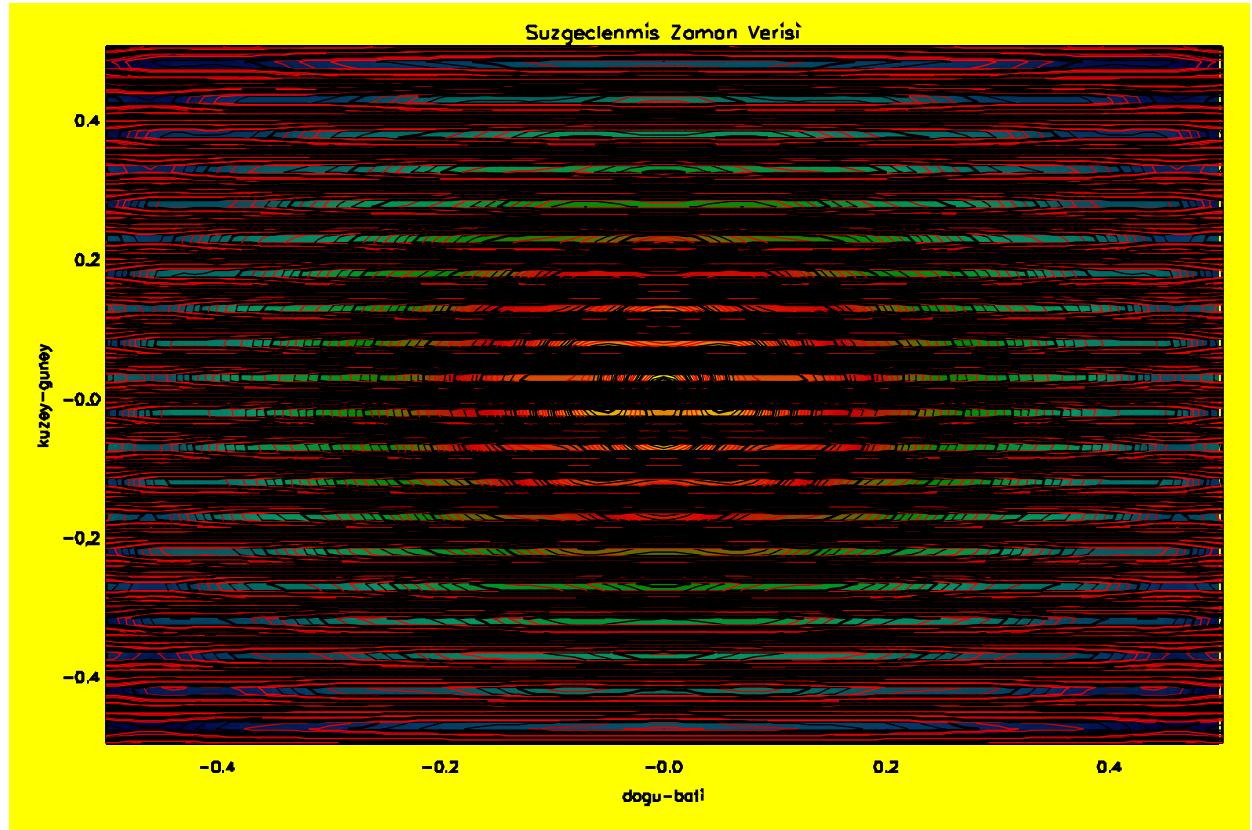
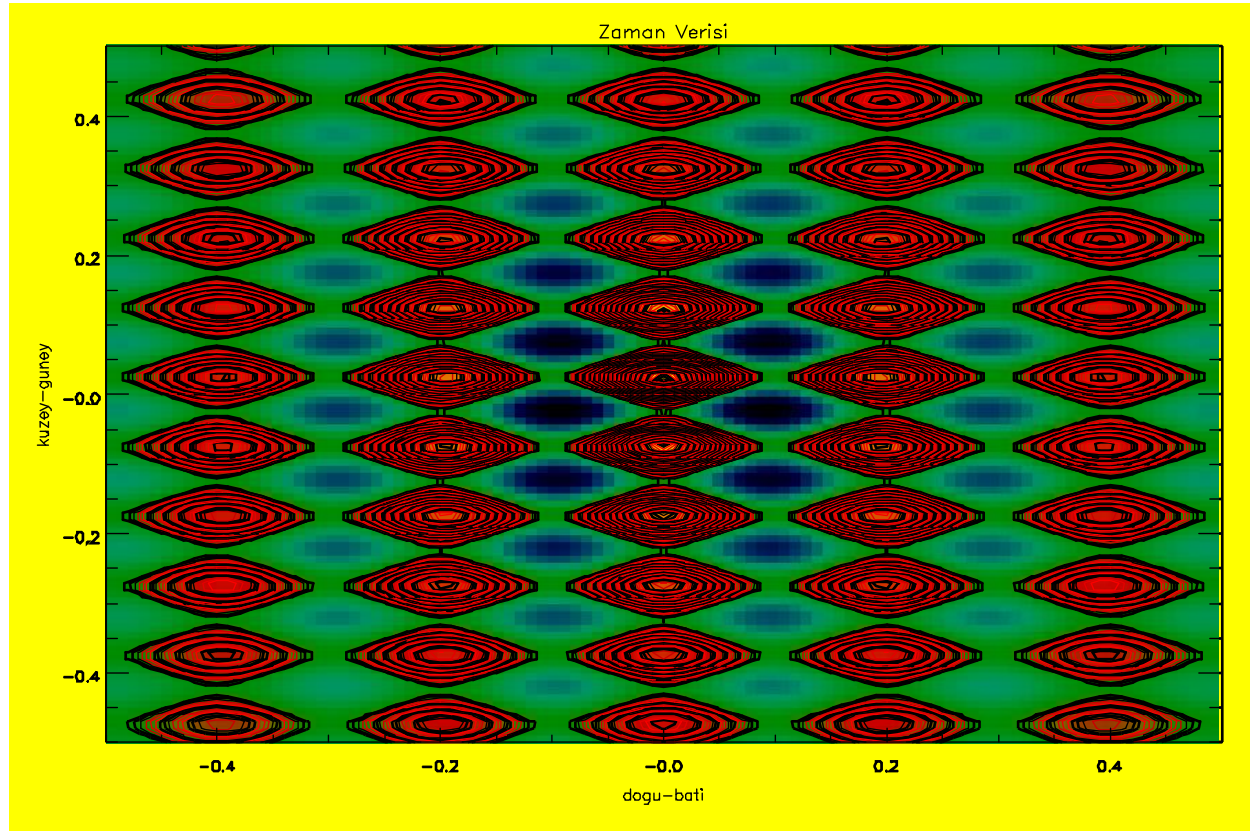


Frekans bölgesinde veri-suzgeç carpimi



Zaman bölgesinde suzgeçlenmiş veri



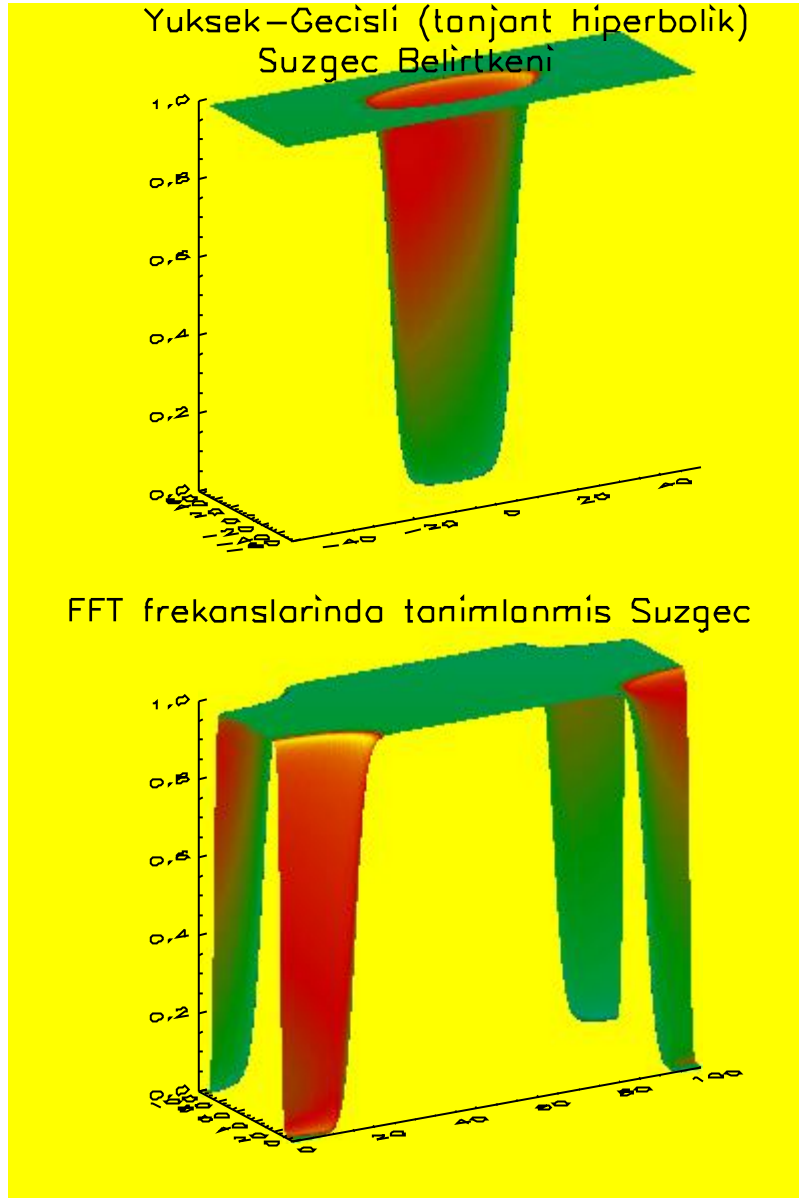


FREKANS SECICI SUZGECIN TURU

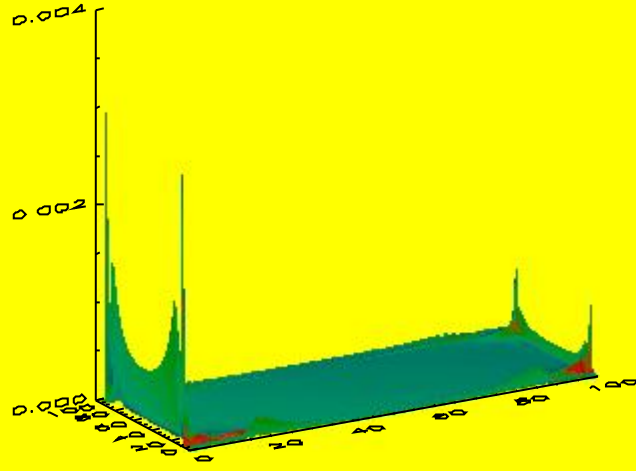
1. Alcak-Gecisli tanjant hiperbolik
2. Band-Gecisli tanjant hiperbolik
3. Yuksek-Gecisli tanjant hiperbolik
4. Band-Durdurucu tanjant hiperbolik
5. Veriyi degistir

suzgec numarasini giriniz >3

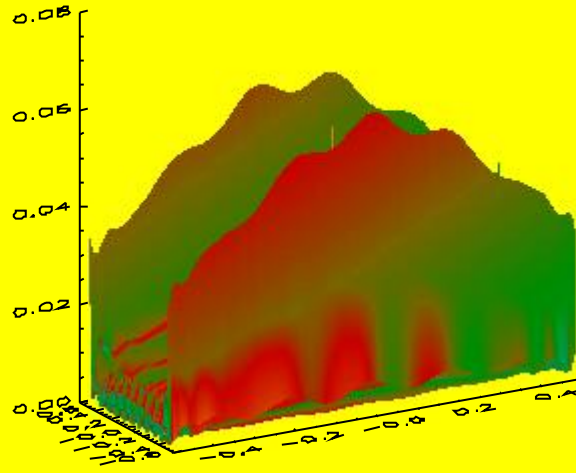
yuksek kesme frekansini ve gecis bolgesi yari uzunlugunu giriniz >15 5

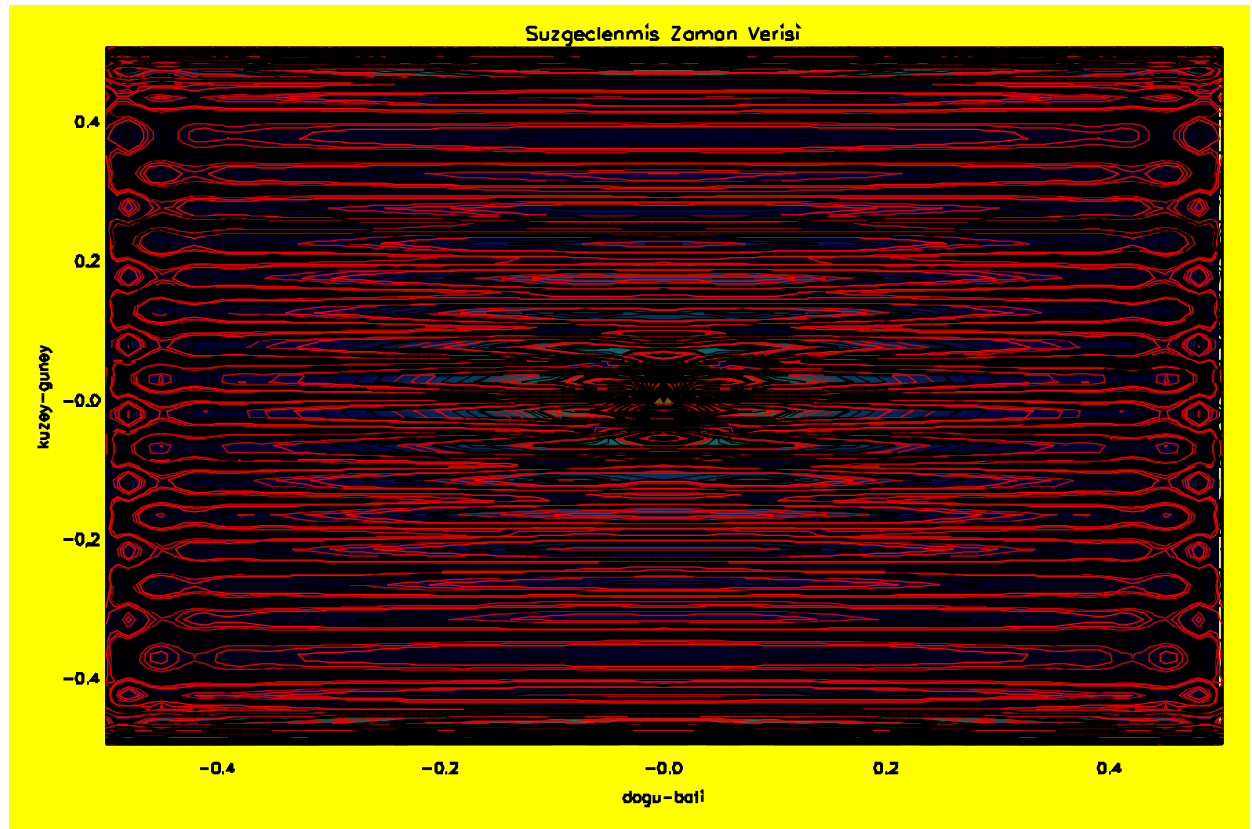
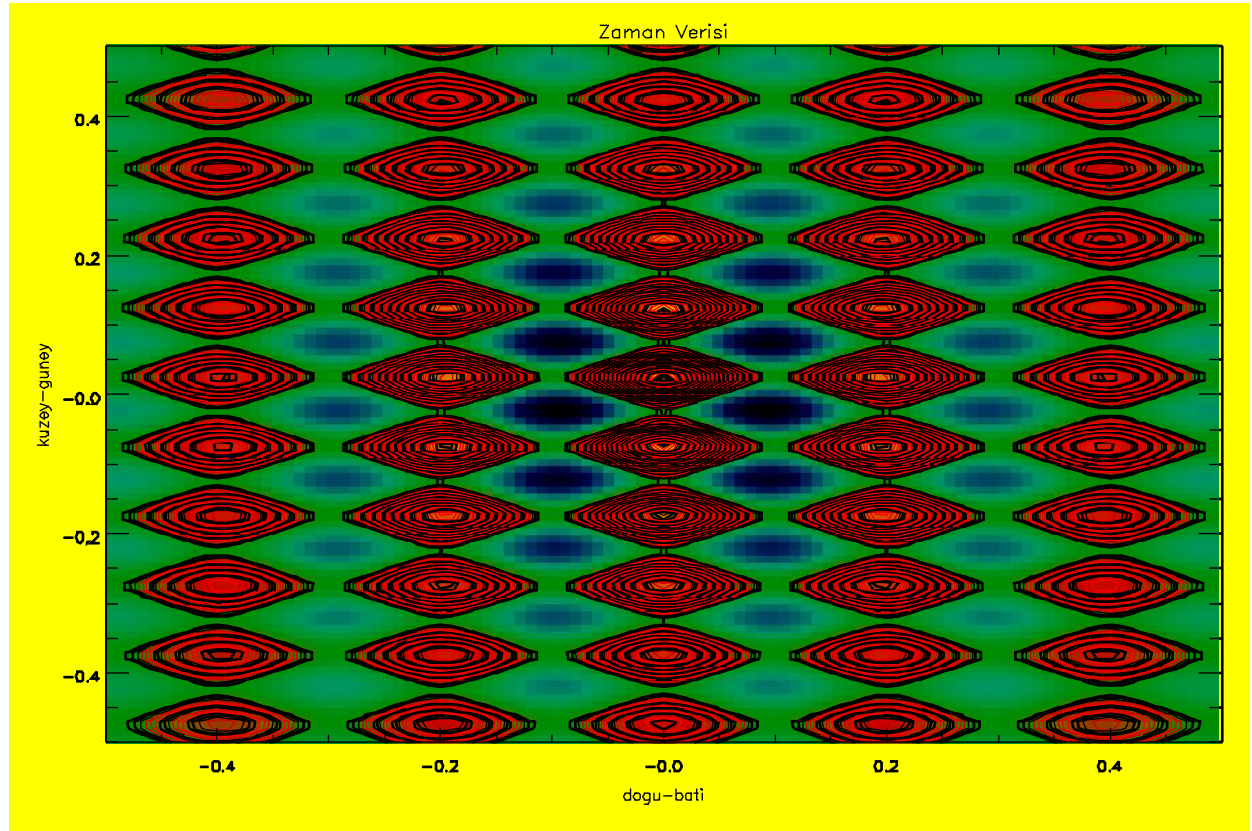


Frekans bölgesinde veri-suzgeç carpımı



Zaman bölgesinde suzgeçlenmiş veri





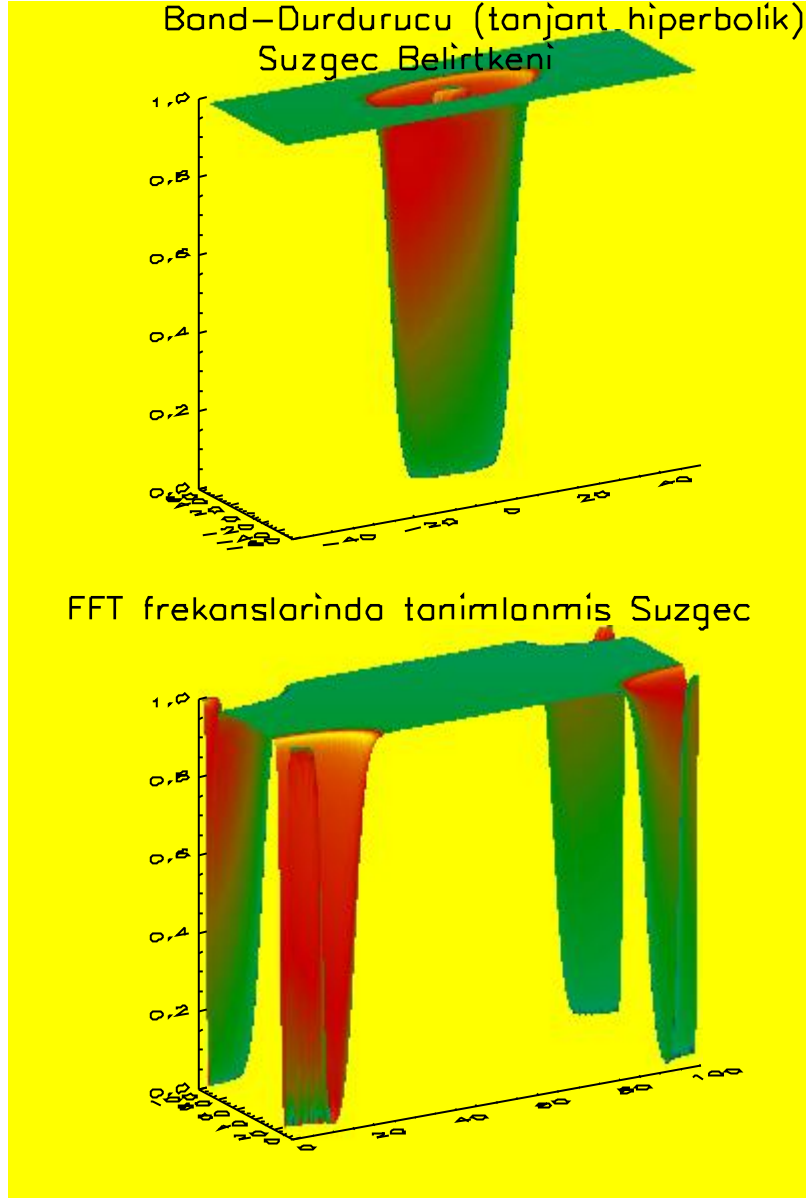
FREKANS SECICI SUZGECIN TURU

1. Alcak-Gecisli tanjant hiperbolik
2. Band-Gecisli tanjant hiperbolik
3. Yuksek-Gecisli tanjant hiperbolik
4. Band-Durdurucu tanjant hiperbolik
5. Veriyi degistir

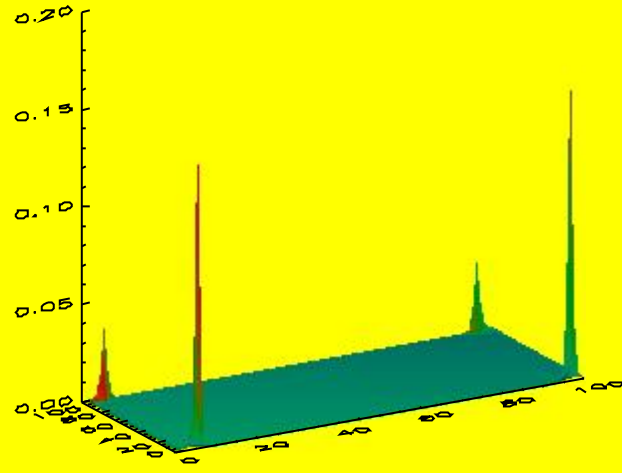
suzgec numarasini giriniz >4

alcak kesme frekansini ve gecis bolgesi yari uzunlugunu giriniz >7 2

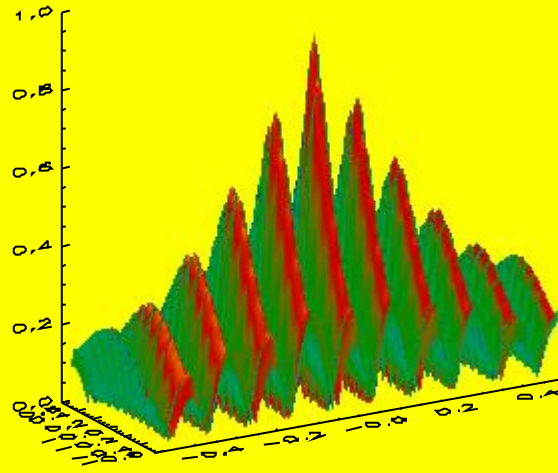
yuksek kesme frekansini ve gecis bolgesi yari uzunlugunu giriniz >15 5

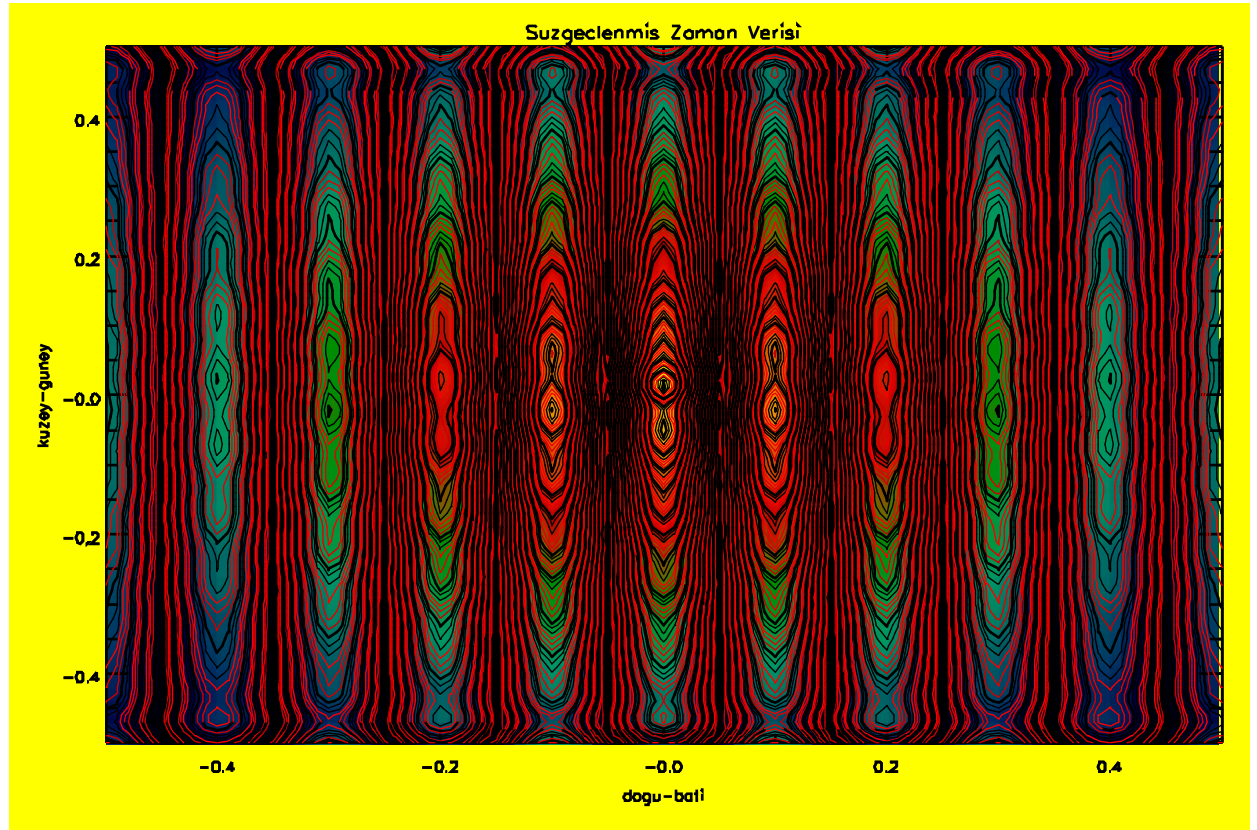
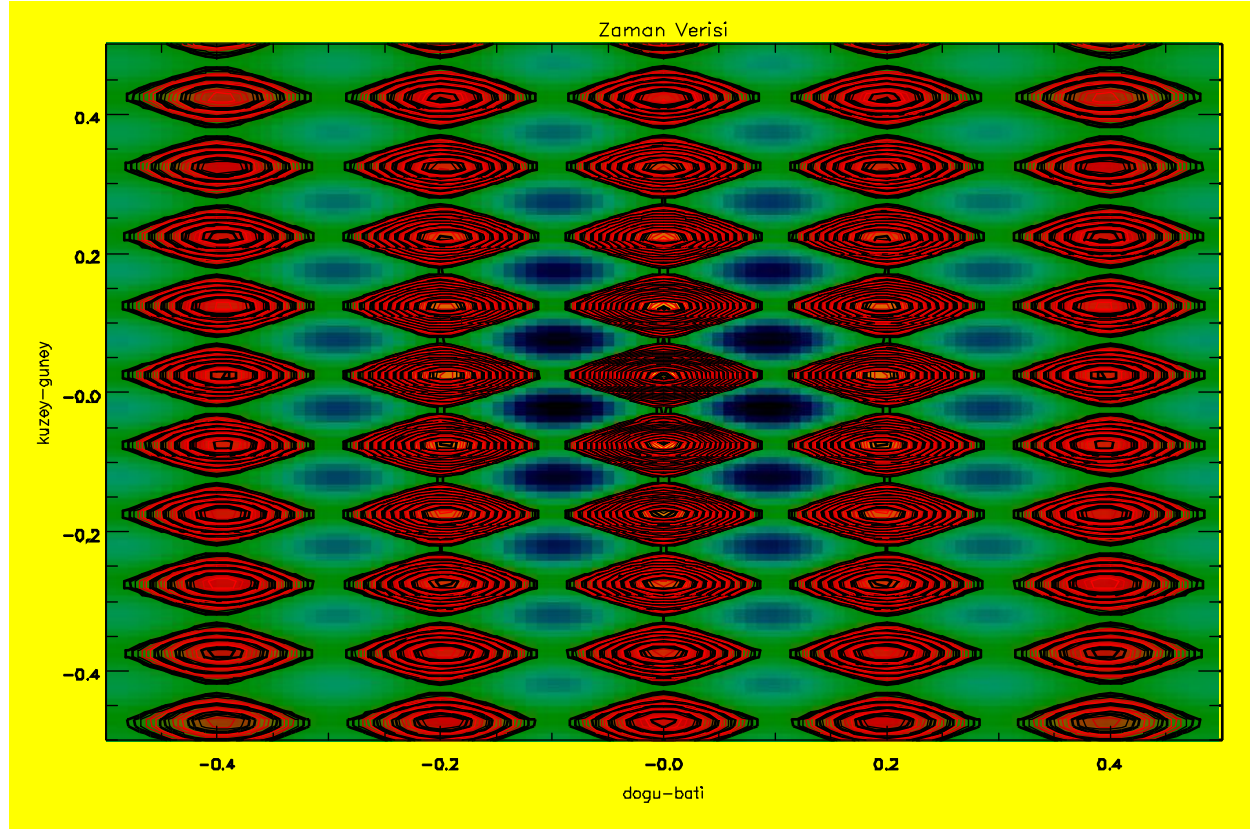


Frekans bölgesinde veri-suzgeç carpimi



Zaman bölgesinde suzgeçlenmiş veri





veri dosyadan okutulacak (1) - sinama verisi (2) - son (3) >2

$$r=\sqrt{x^2+y^2}$$

$$1. z=\exp(-\text{alfa}*r)*(a*\cos(f1*r)+b*\sin(f2*r))$$

$$2. z=\exp(-\text{alfa}*r)*(a*\cos(f1*x)+b*\sin(f2*y))$$

$$3. z=\exp(-\text{alfa}*r)*a*\cos(f1*x)*b*\sin(f2*y)$$

4. Baslangic

kuramsal verinin numarasini giriniz >3

ornekleme araligini giriniz >0.01

a ve b katsayilarini giriniz >1 1

sadece sinüzoidal icin alfa=0

alfa katsayisini giriniz >3

veri sayisi 101.000

ornekleme araligi 0.0100000

frekans ornekleme araligi 1.00000

Nyquist frekansi 50.0000

iki adet frekans degeri giriniz >5 10

dondurme acisi >0

toplam veri sayisi 10201.0

x yonunde_____

veri sayisi 101.000

ornekleme araligi 0.0100000

frekans ornekleme araligi 1.00000

Nyquist frekansi 50.0000

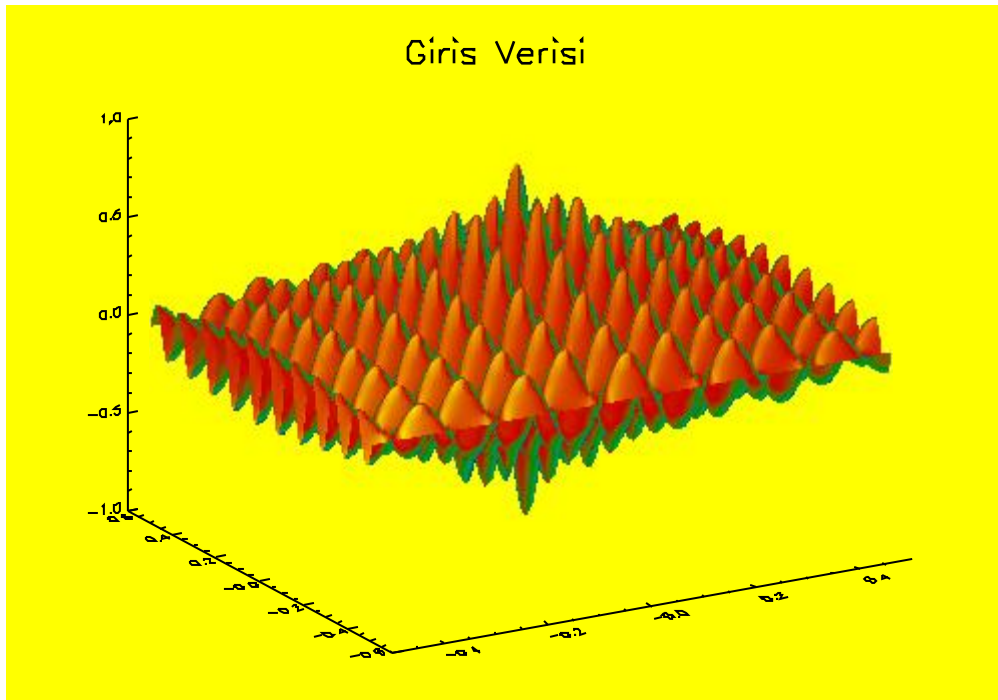
y yonunde_____

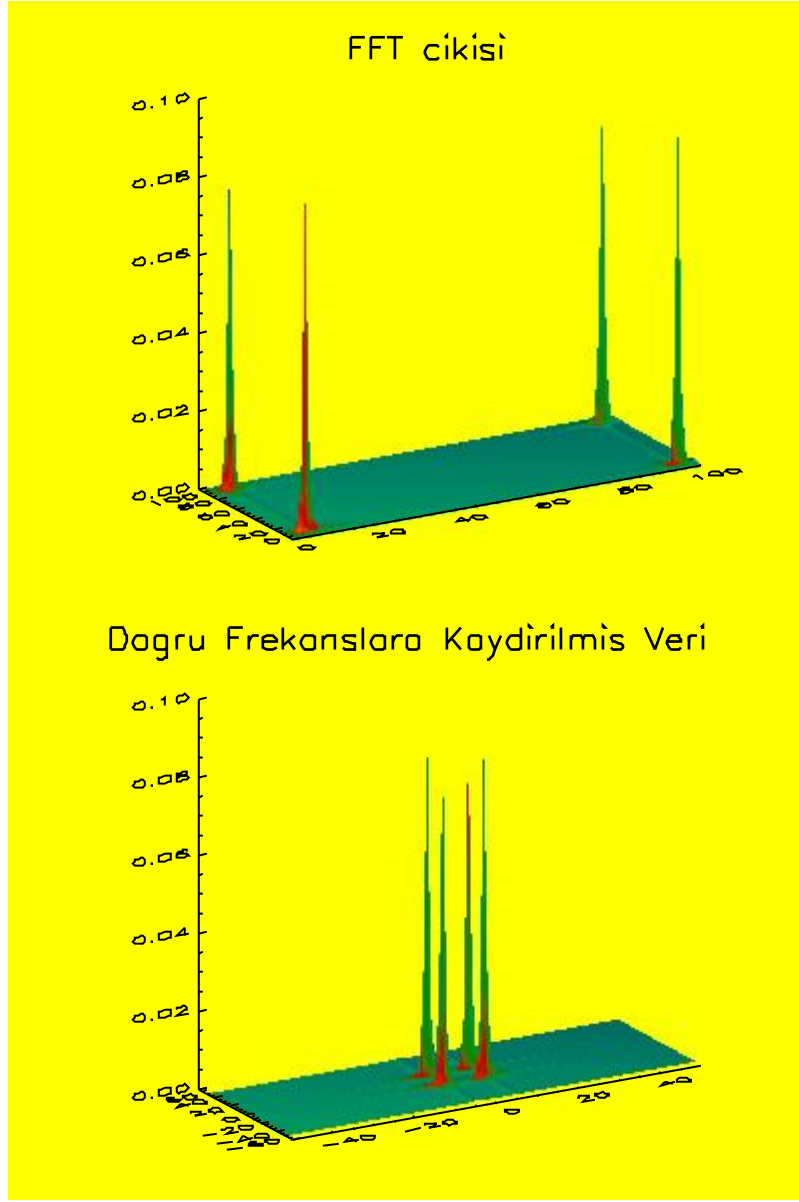
veri sayisi 101.000

ornekleme araligi 0.0100000

frekans ornekleme araligi 1.00000

Nyquist frekansi 50.0000





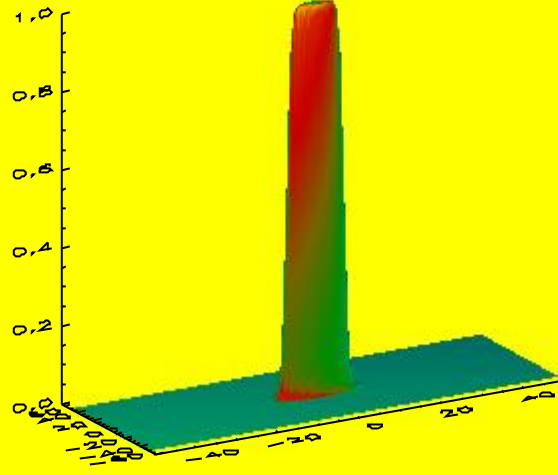
FREKANS SECICI SUZGECIN TURU

1. Alcak-Gecisli tanjant hiperbolik
2. Band-Gecisli tanjant hiperbolik
3. Yuksek-Gecisli tanjant hiperbolik
4. Band-Durdurucu tanjant hiperbolik
5. Veriyi degistir

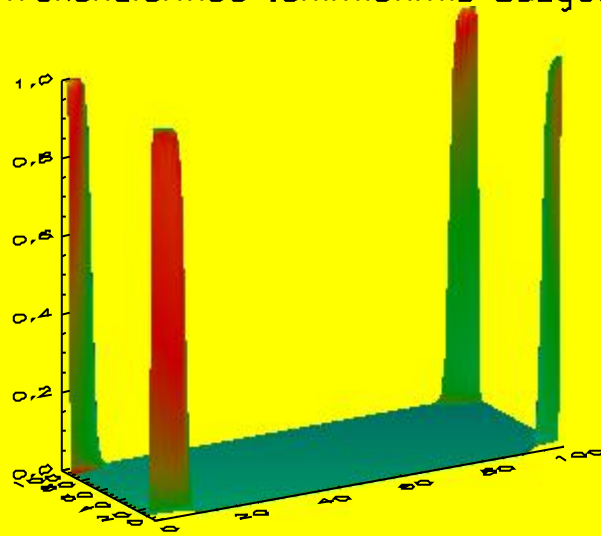
suzgec numarasini giriniz >1

alcak kesme frekansini ve gecis bolgesi yari uzunlugunu giriniz >7 2

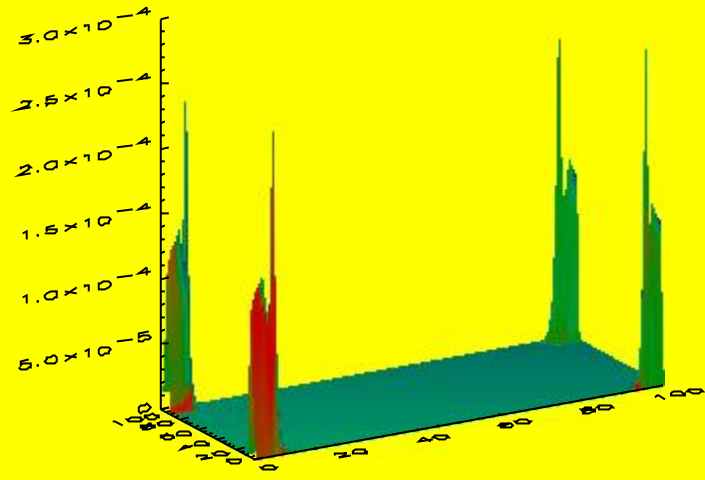
Alcok-Gecisli (tanjant hiperbolik) Suzgec Belirtkeni



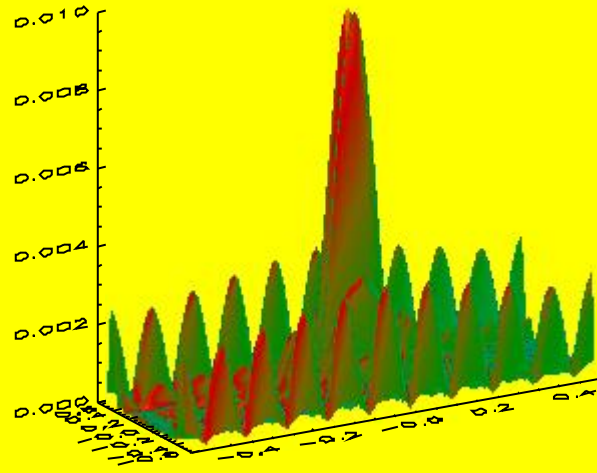
FFT frekanslarında tanımlanmış Suzgec

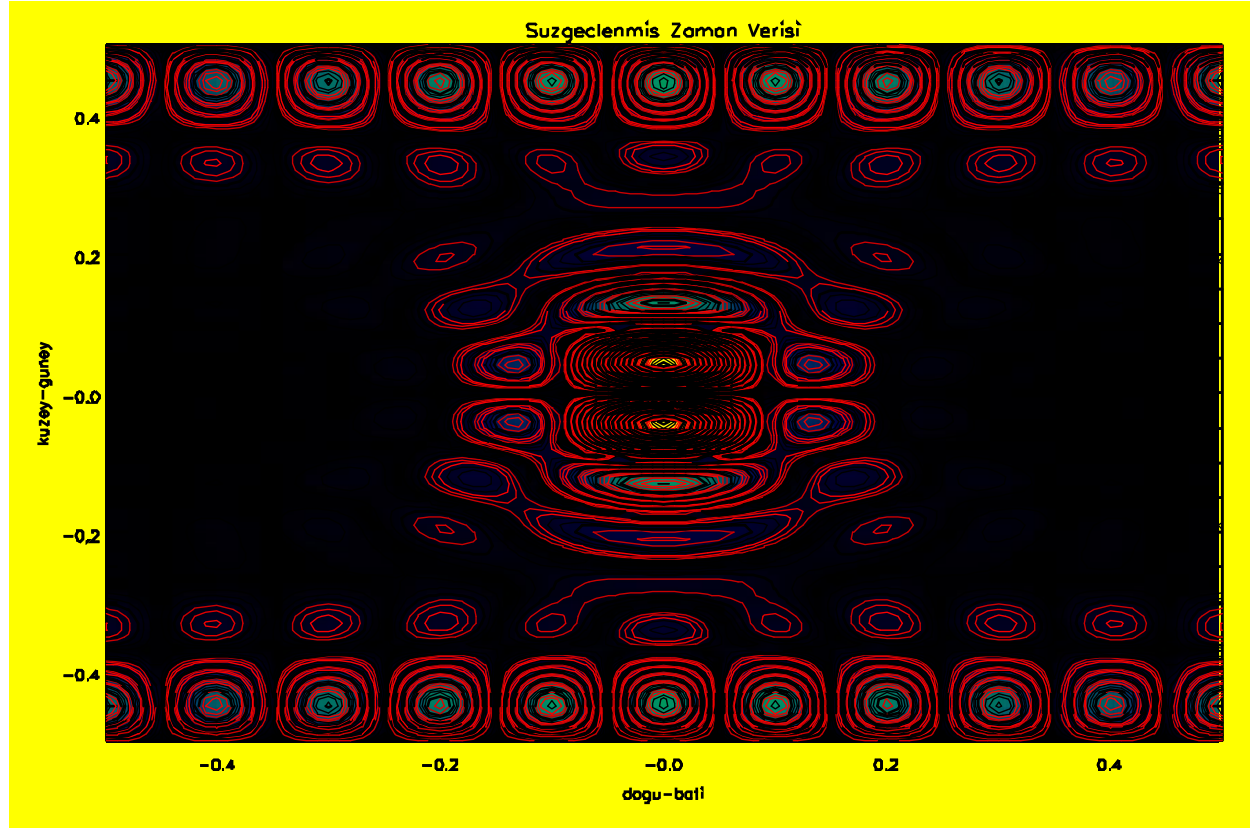
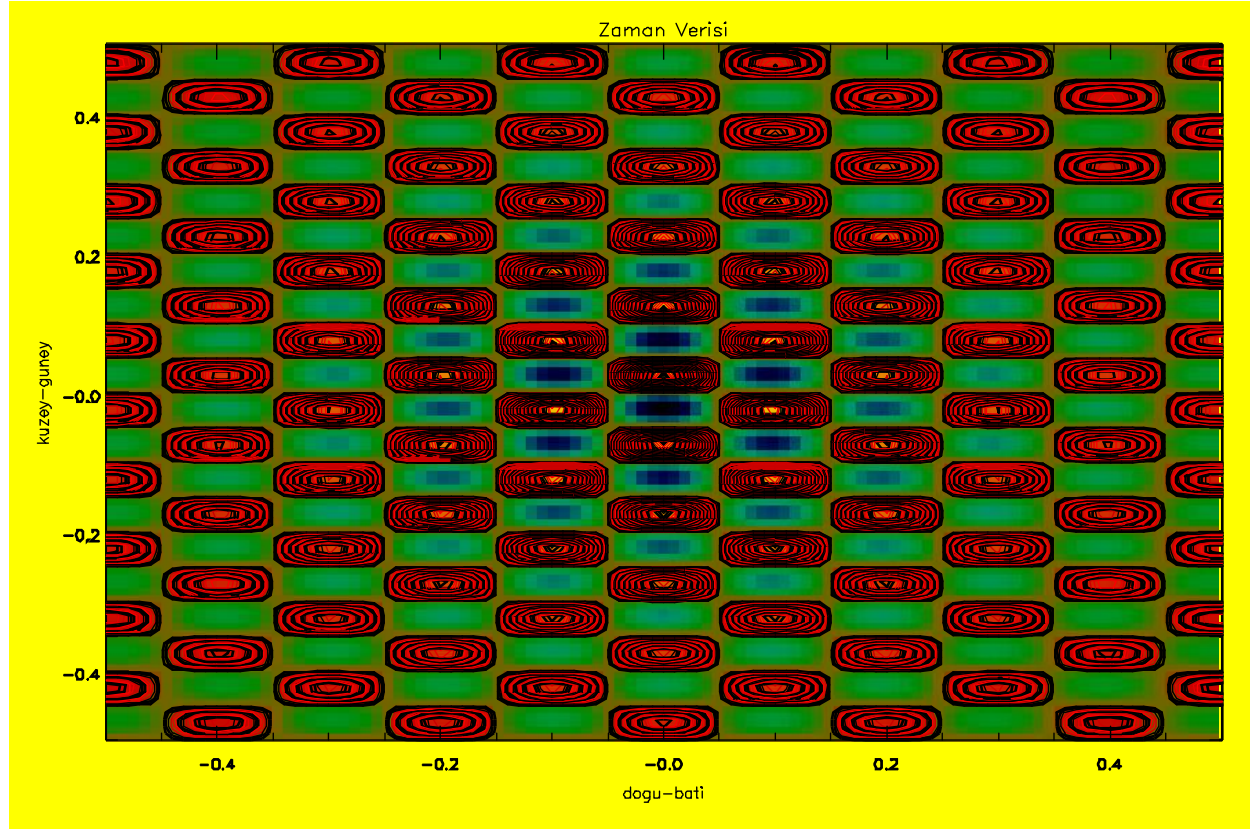


Frekans bölgesinde veri-suzgeç carpımı



Zaman bölgesinde suzgeçlenmiş veri





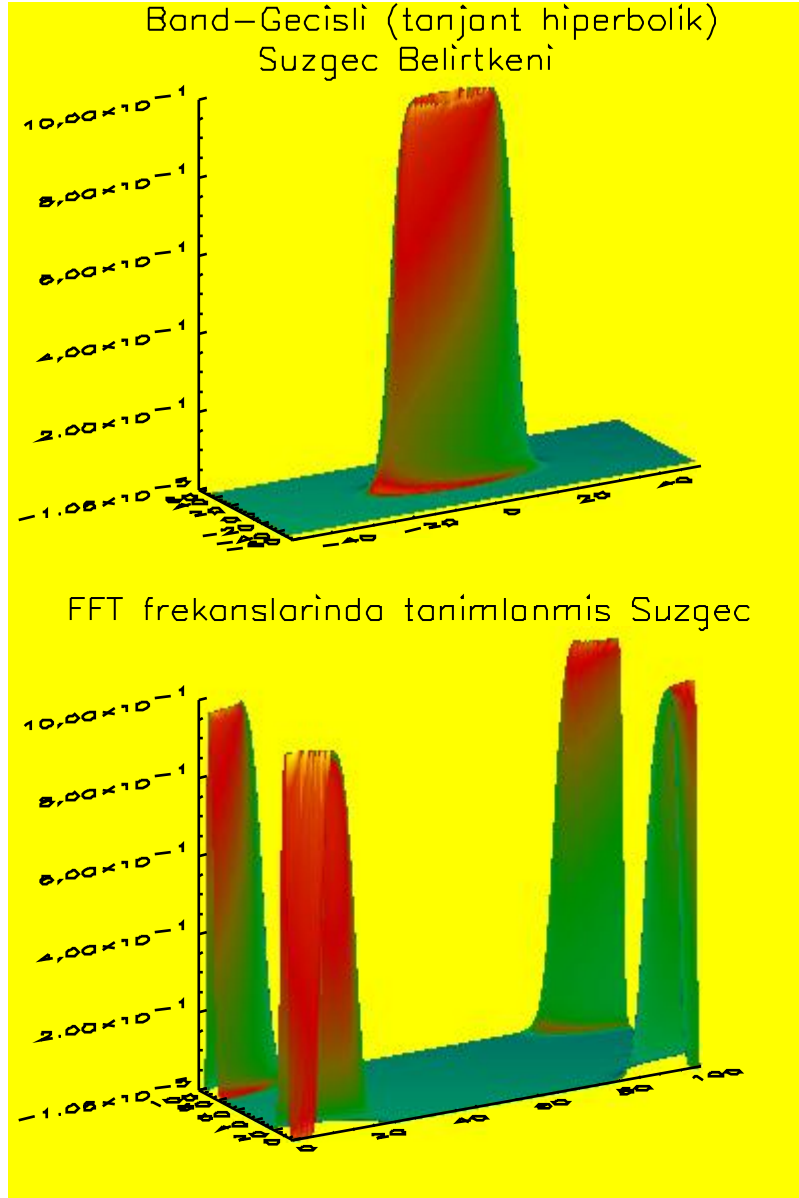
FREKANS SECICI SUZGECIN TURU
1. Alcak-Gecisli tanjant hiperbolik

2. Band-Gecisli tanjant hiperbolik
3. Yuksek-Gecisli tanjant hiperbolik
4. Band-Durdurucu tanjant hiperbolik
5. Veriyi degistir

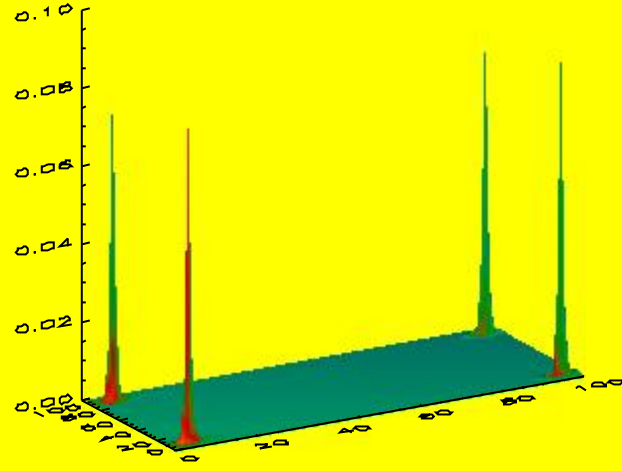
suzgec numarasini giriniz >2

alcak kesme frekansini ve gecis bolgesi yari uzunlugunu giriniz >7 2

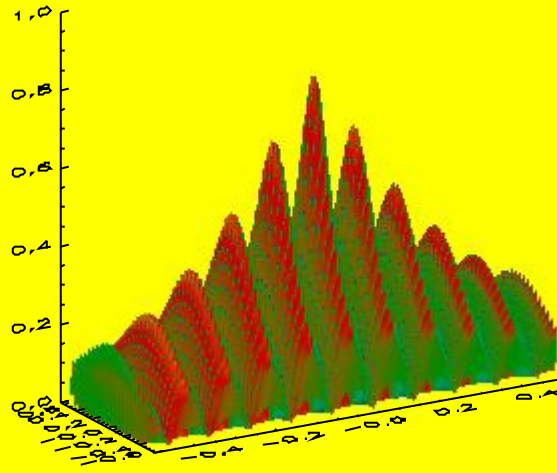
yuksek kesme frekansini ve gecis bolgesi yari uzunlugunu giriniz >15 5

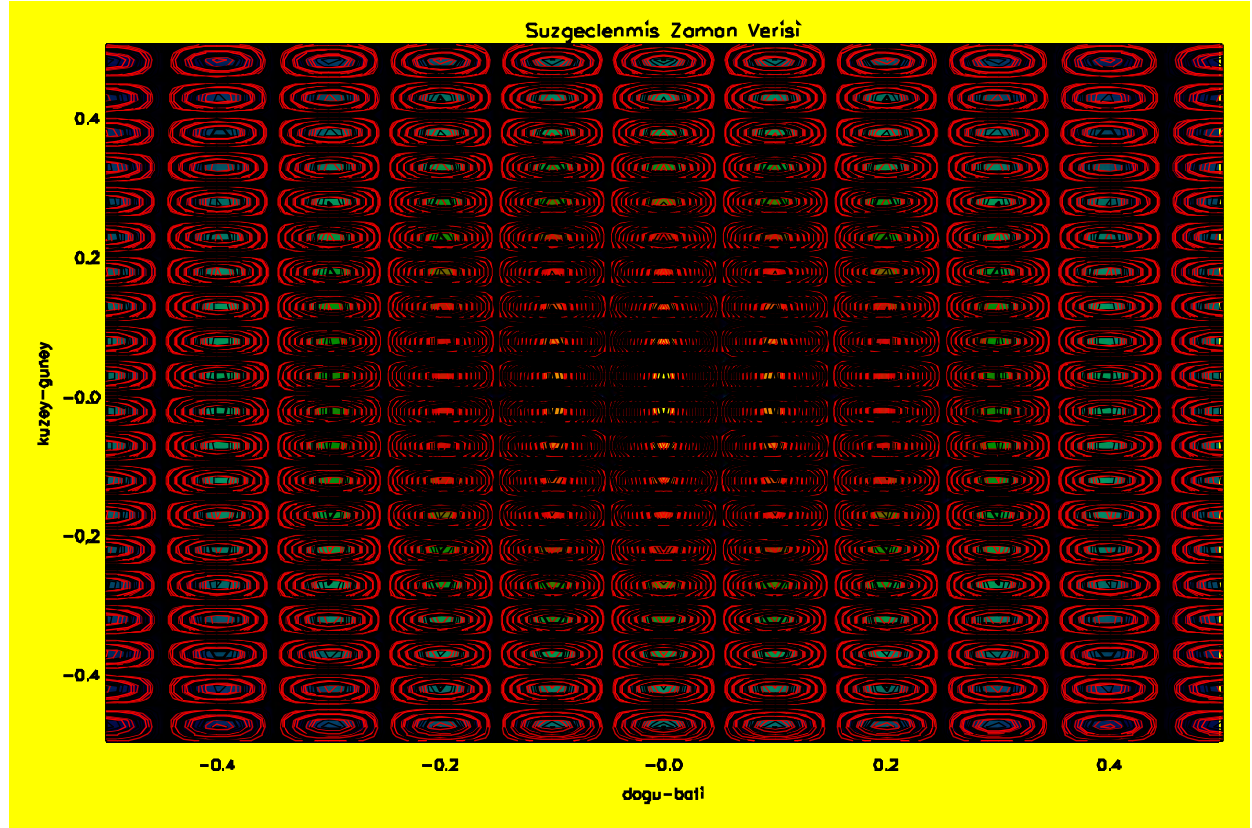
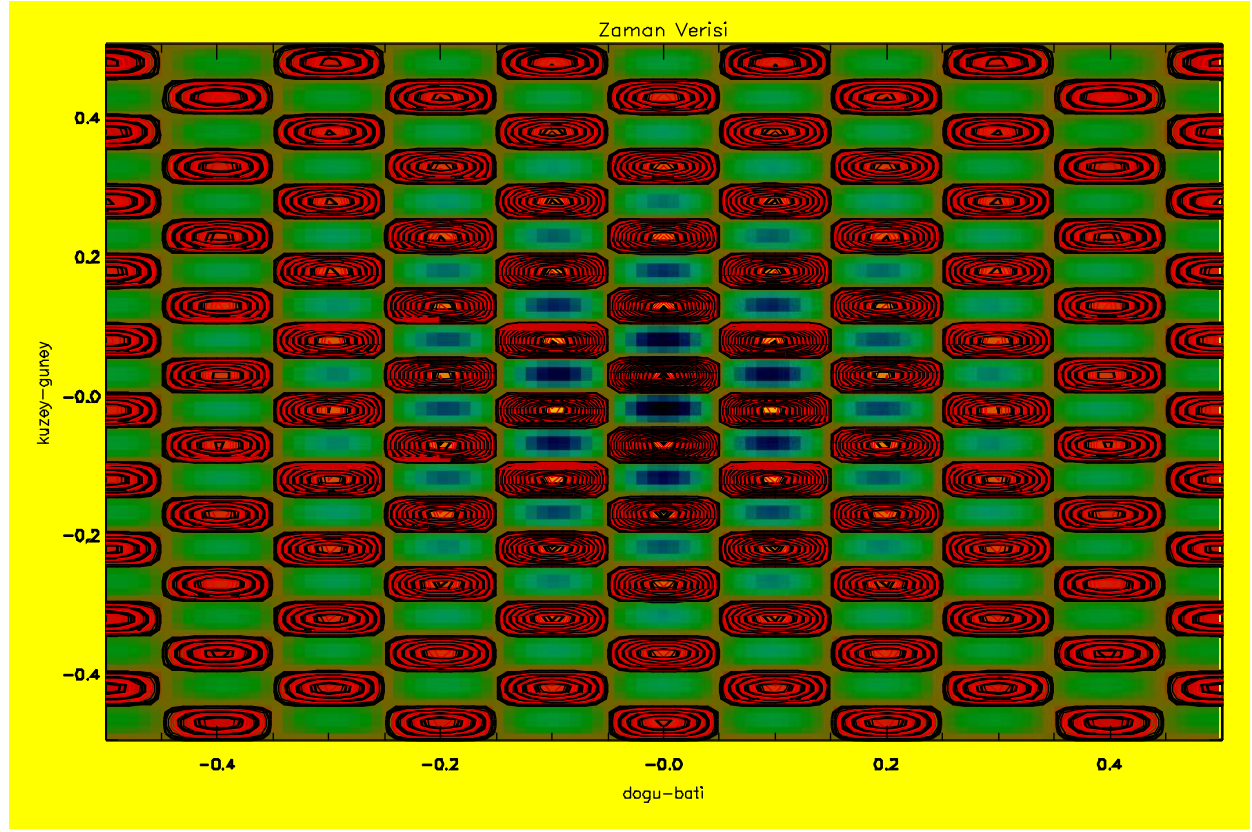


Frekans bölgesinde veri-suzgeç carpimi



Zaman bölgesinde suzgeçlenmiş veri





GORUNTU DOSYASININ TURU

1. img

2. tif

3. programi sonlandir

tur eki icin bir sayi giriniz >1

dosya no	dosya adi
1	aerial_demo.img
2	mandril.img

dosya numarasini giriniz veya tur eki degistirmek icin sifir >1

FREKANS SECICI SUZGECIN TURU

1. Alcak-Gecisli tanjant hiperbolik

2. Band-Gecisli tanjant hiperbolik

3. Yuksek-Gecisli tanjant hiperbolik

4. Band-Durdurucu tanjant hiperbolik

5. Alcak-Gecisli Butterworth

6. Veriyi degistir

suzgec numarasini giriniz >1

alcak kesme frekansini giriniz >150

alcak frekansta gecis bolgesi yari uzunlugu =50

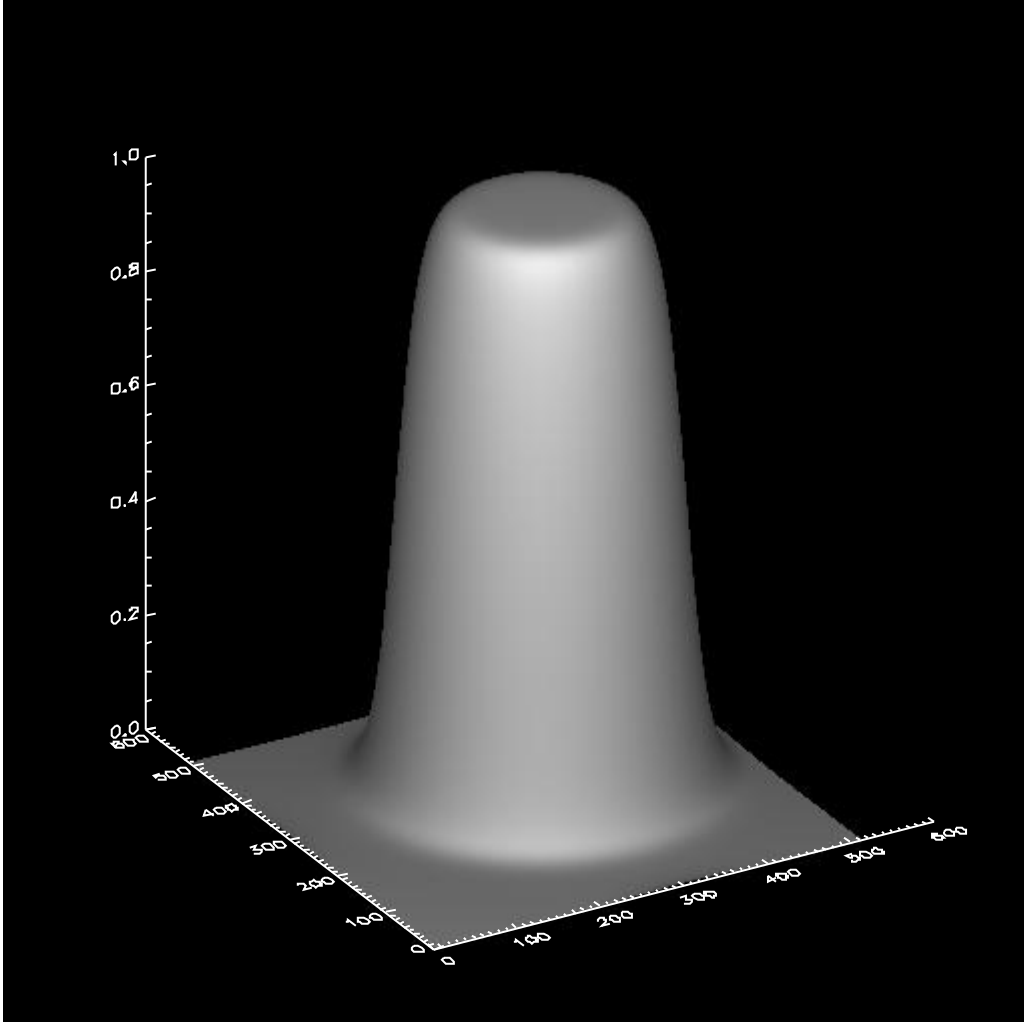
GÖRÜNTÜ



SÜZGEÇLENM GÖRÜNTÜ



SÜZGEÇ



FREKANS SECICI SUZGECIN TURU

1. Alcak-Gecisli tanjant hiperbolik
2. Band-Gecisli tanjant hiperbolik
3. Yuksek-Gecisli tanjant hiperbolik
4. Band-Durdurucu tanjant hiperbolik
5. Alcak-Gecisli Butterworth
6. Veriyi degistir

suzgec numarasini giriniz >2

alcak kesme frekansini giriniz >50

alcak frekansta gecis bolgesi yari uzunlugu =10

yuksek kesme frekansini giriniz >150

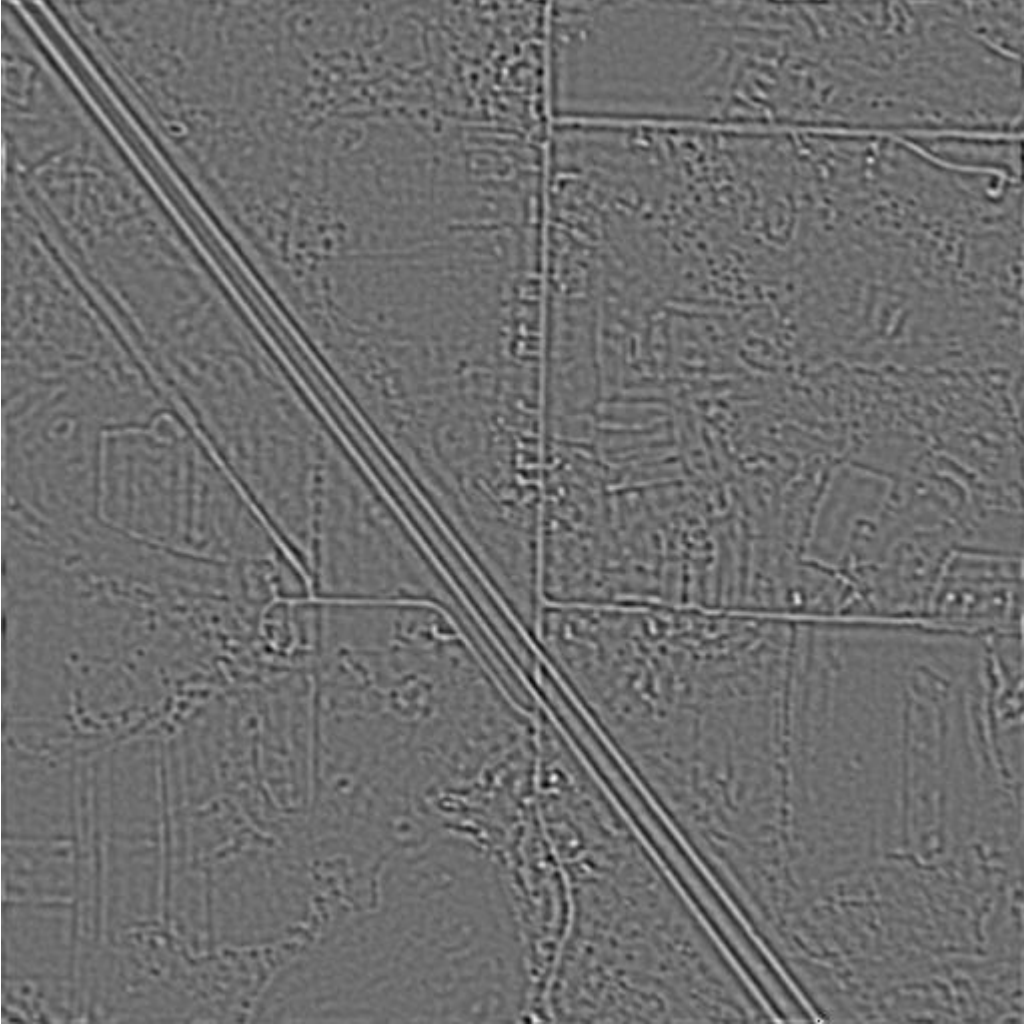
yuksek frekansta gecis bolgesi yari uzunlugu =50

alcak kesme frekansini giriniz >150

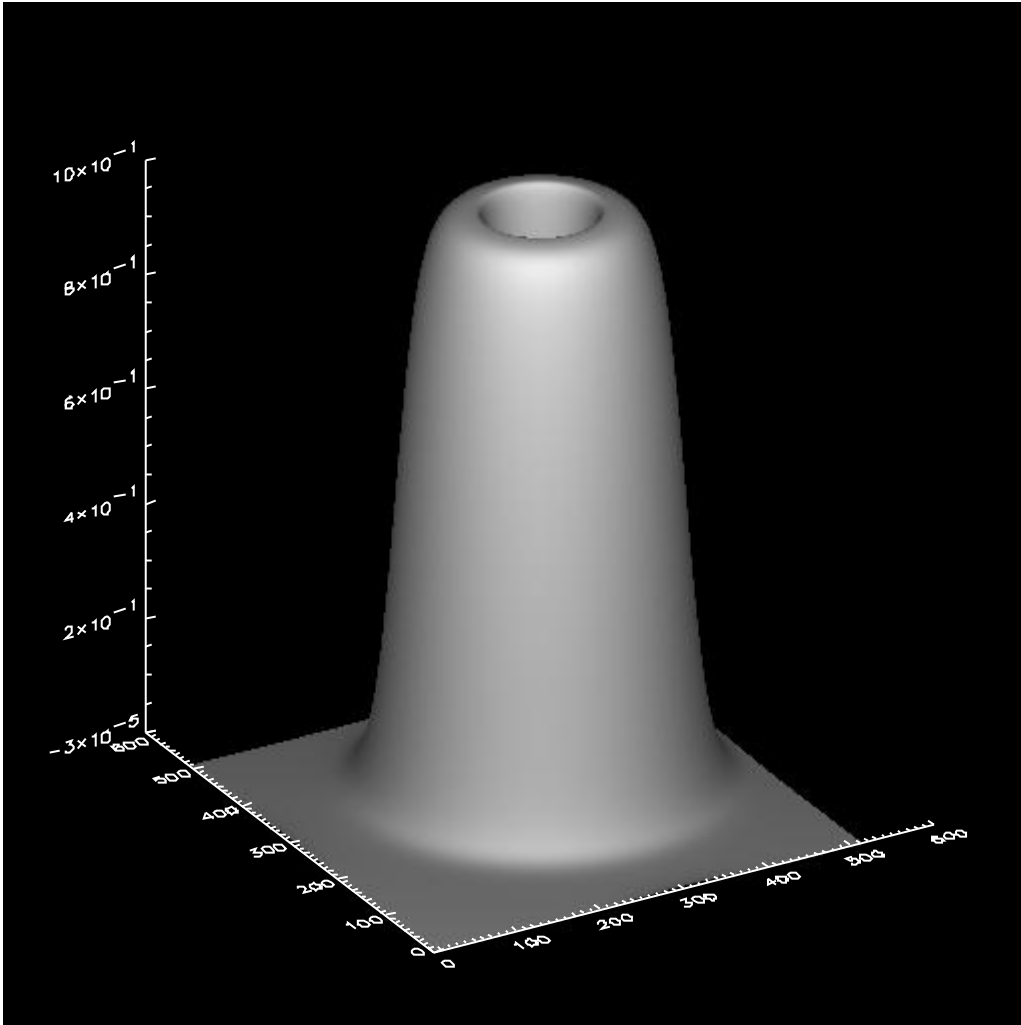
GÖRÜNTÜ



SÜZGEÇLENM GÖRÜNTÜ



SÜZGEÇ



FREKANS SECICI SUZGECIN TURU

1. Alcak-Gecisli tanjant hiperbolik
2. Band-Gecisli tanjant hiperbolik
3. Yuksek-Gecisli tanjant hiperbolik
4. Band-Durdurucu tanjant hiperbolik
5. Alcak-Gecisli Butterworth
6. Veriyi degistir

suzgec numarasini giriniz >2

alcak kesme frekansini giriniz >10

alcak frekansta gecis bolgesi yari uzunlugu =5

yuksek kesme frekansini giriniz >100

yuksek frekansta gecis bolgesi yari uzunlugu =50

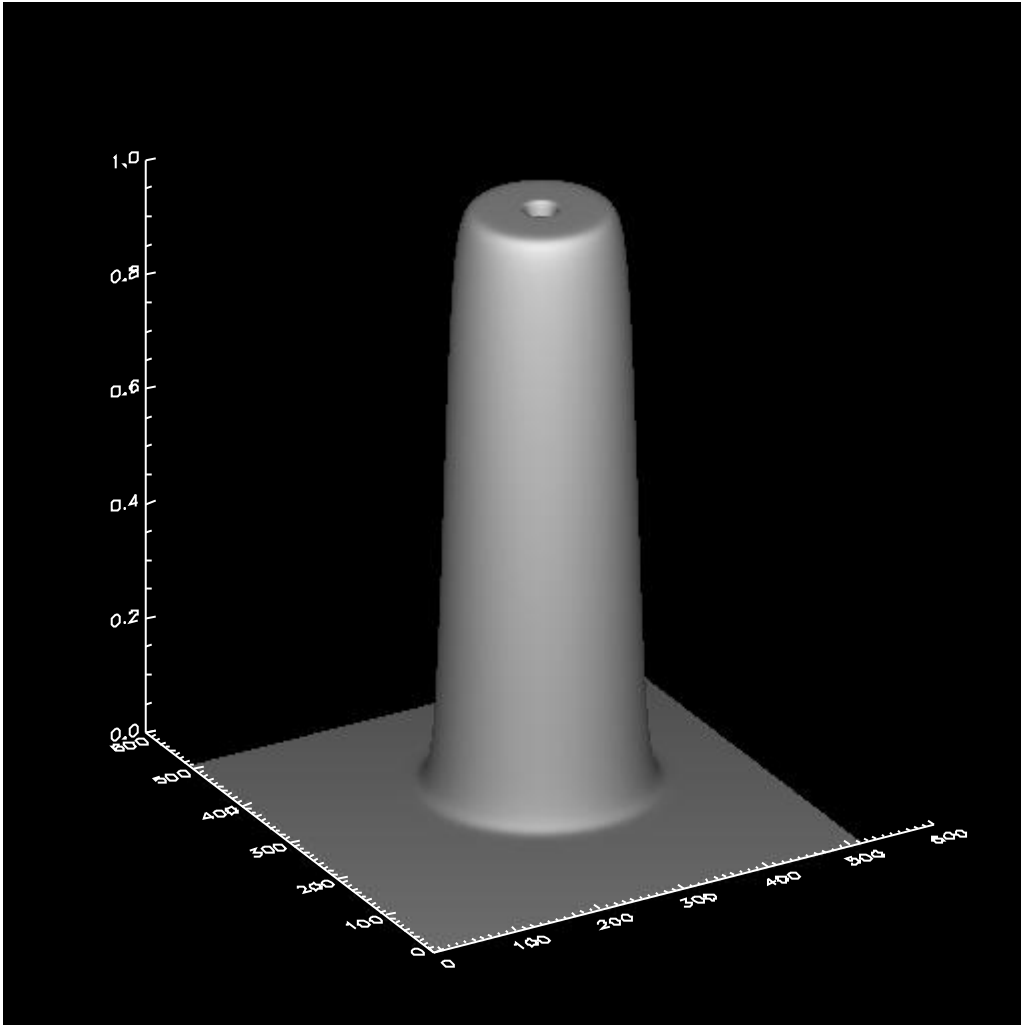
GÖRÜNTÜ



SÜZGEÇLENM GÖRÜNTÜ



SÜZGEÇ



GORUNTU DOSYASININ TURU

1. img

2. tif

3. programi sonlandir

tur eki icin bir sayi giriniz >1

dosya no	dosya adi
1	aerial_demo.img
2	mandril.img

dosya numarasini giriniz veya tur eki degistirmek icin sifir >1

FREKANS SECICI SUZGECIN TURU

1. Alcak-Gecisli tanjant hiperbolik

2. Band-Gecisli tanjant hiperbolik

3. Yuksek-Gecisli tanjant hiperbolik

4. Band-Durdurucu tanjant hiperbolik

5. Alcak-Gecisli Butterworth

6. Veriyi degistir

suzgec numarasini giriniz >1

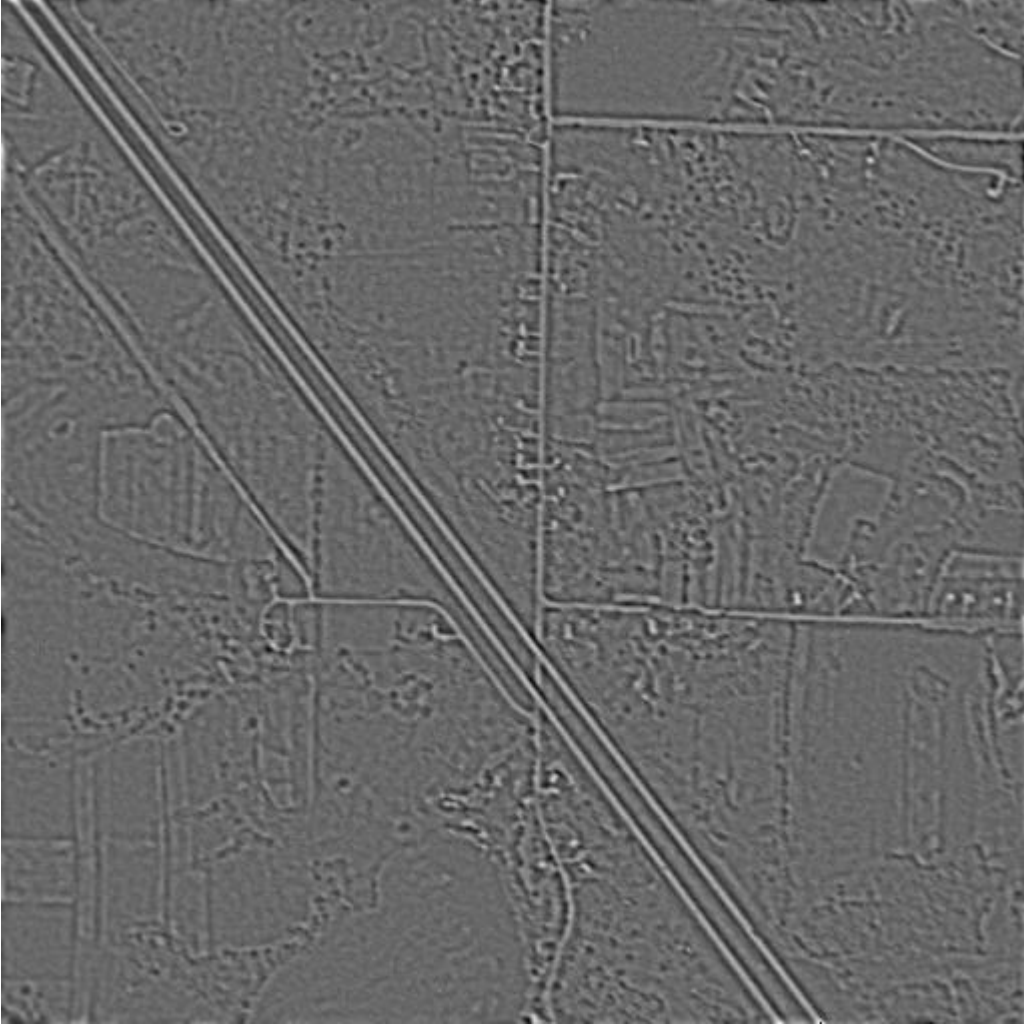
yuksek kesme frekansini giriniz >50

yuksek frekansta gecis bolgesi yari uzunlugu =30

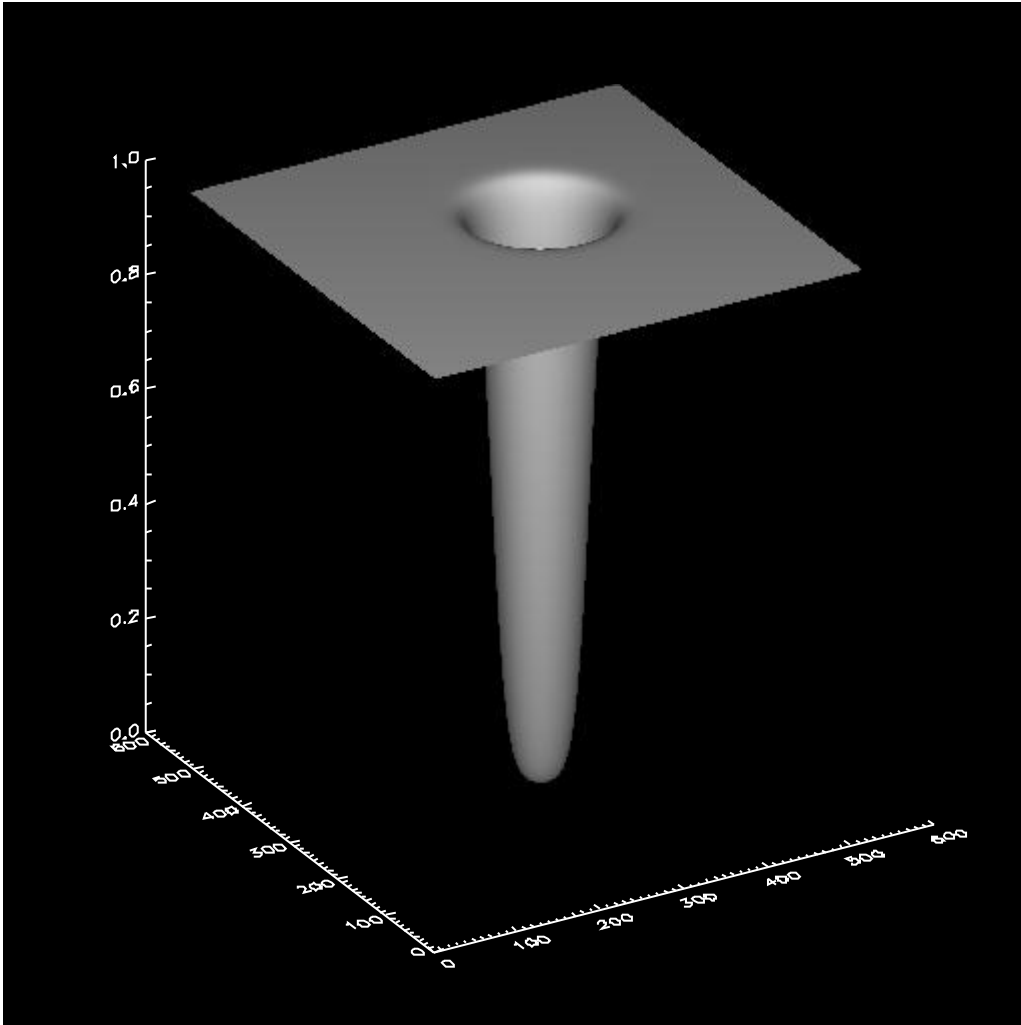
GÖRÜNTÜ



SÜZGEÇLENM GÖRÜNTÜ



SÜZGEÇ



GORUNTU DOSYASININ TURU
FREKANS SECICI SUZGECIN TURU

1. Alcak-Gecisli tanjant hiperbolik
2. Band-Gecisli tanjant hiperbolik
3. Yuksek-Gecisli tanjant hiperbolik
4. Band-Durdurucu tanjant hiperbolik
5. Alcak-Gecisli Butterworth
6. Veriyi degistir

suzgec numarasini giriniz >4

alcak kesme frekansini giriniz >50

alcak frekansta gecis bolgesi yari uzunlugu =10

yuksek kesme frekansini giriniz >150

yuksek frekansta gecis bolgesi yari uzunlugu =50

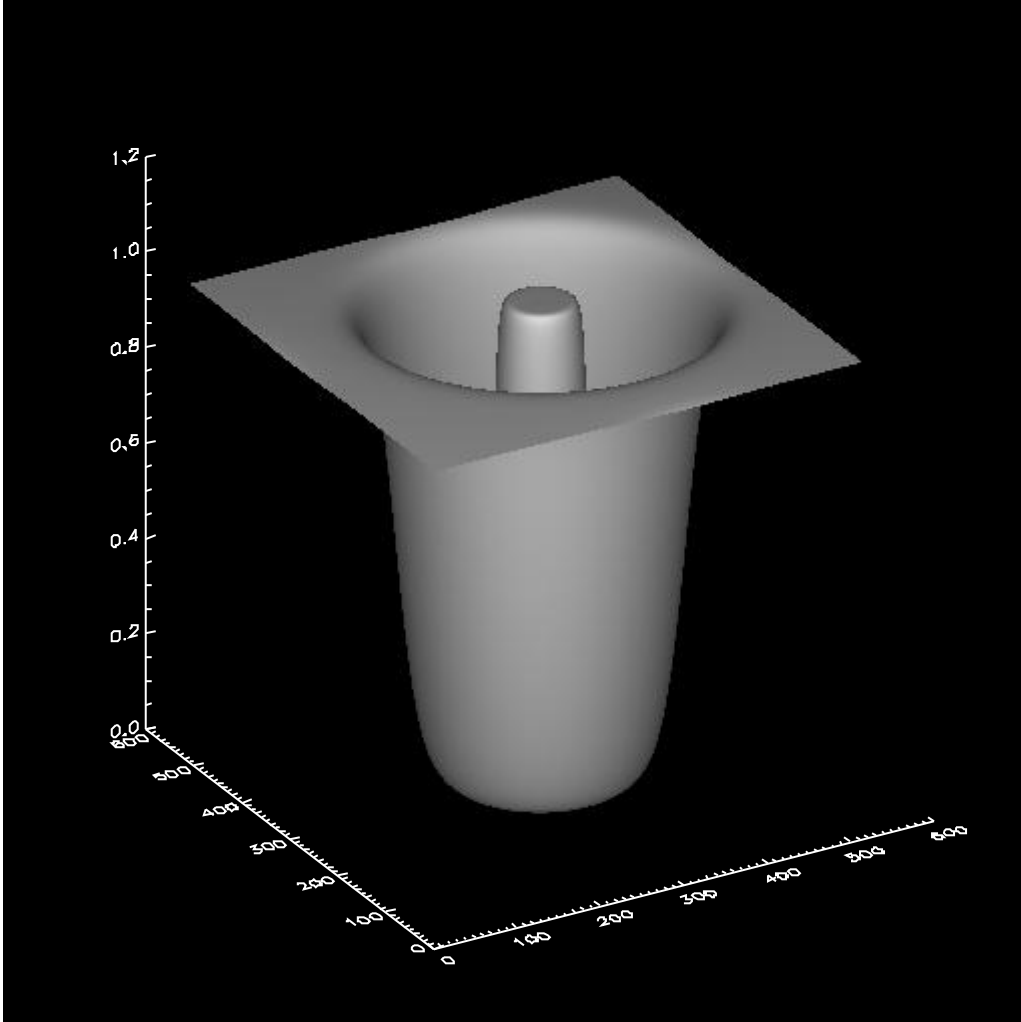
GÖRÜNTÜ



SÜZGEÇLENM GÖRÜNTÜ



SÜZGEÇ



GORUNTU DOSYASININ TURU
FREKANS SECICI SUZGECIN TURU

1. Alcak-Gecisli tanjant hiperbolik
2. Band-Gecisli tanjant hiperbolik
3. Yuksek-Gecisli tanjant hiperbolik
4. Band-Durdurucu tanjant hiperbolik
5. Alcak-Gecisli Butterworth
6. Veriyi degistir

suzgec numarasini giriniz >4

alcak kesme frekansini giriniz >100

alcak frekansta gecis bolgesi yari uzunlugu =10

yuksek kesme frekansini giriniz >150

yuksek frekansta gecis bolgesi yari uzunlugu =10

GÖRÜNTÜ



SÜZGEÇLENM GÖRÜNTÜ



SÜZGEÇ

