

Splot taszk használata

Splot - mire jó?

- Kirajzolja a spektrumot
- Analízálja a spektrumot

Splot - taszk

Noao => onedspec => *splot*

imred => echelle => *splot*

```
szkati@triton:~  
IRAF  
Image Reduction and Analysis Facility  
PACKAGE = echelle  
TASK = splot  
  
images = J0002702.dc List of images to plot  
line = 42 Image line/aperture to plot  
band = 3 Image band to plot  
(units = Angstrom) Plotting units  
(options= auto wreset ) Combination of plotting options:  
auto, zero, xydraw, histogram,  
nosysid, wreset, flip, overplot  
  
(xmin = INDEF) Minimum X value of initial graph  
(xmax = INDEF) Maximum X value of initial graph  
(ymin = INDEF) Minimum Y value of initial graph  
(ymax = INDEF) Maximum Y value of initial graph  
(save_fi= ) File to contain answers  
(graphic= stdgraph) Output graphics device  
(cursor = ) Graphics cursor input  
  
# PARAMETERS FOR ERROR ANALYSIS  
(nerrsam= 0) Number of error samples (<10 for no errors)  
More  
ESC-? for HELP
```

Splot - taszk

Noao => onedspec => *splot*
imred => echelle =>

```
splot@triton:~  
IRAF  
Image Reduction and Analysis Facility  
PACKAGE = echelle  
TASK = splot  
More  
(sigma0 = INDEF) Constant gaussian noise term (INDEF for no error  
(invgain= INDEF) Inverse gain term (INDEF for no errors)  
  
# PARAMETERS FOR CONTINUUM FITTING  
(function= spline3) Fitting function  
(order = 1) Order of fitting function  
(low_rej= 2.) Low rejection in sigma of fit  
(high_re= 4.) High rejection in sigma of fit  
(niterat= 10) Number of rejection iterations  
(grow = 1.) Rejection growing radius in pixels  
(markrej= yes) Mark rejected points?  
  
# PARAMETERS FOR OVERPLOTING STANDARD STAR FLUX  
star_nam= Standard star name  
mag = Magnitude of star  
magband = Magnitude type  
teff = Effective temperature or spectral type  
More  
ESC-? for HELP
```

Splot - taszk

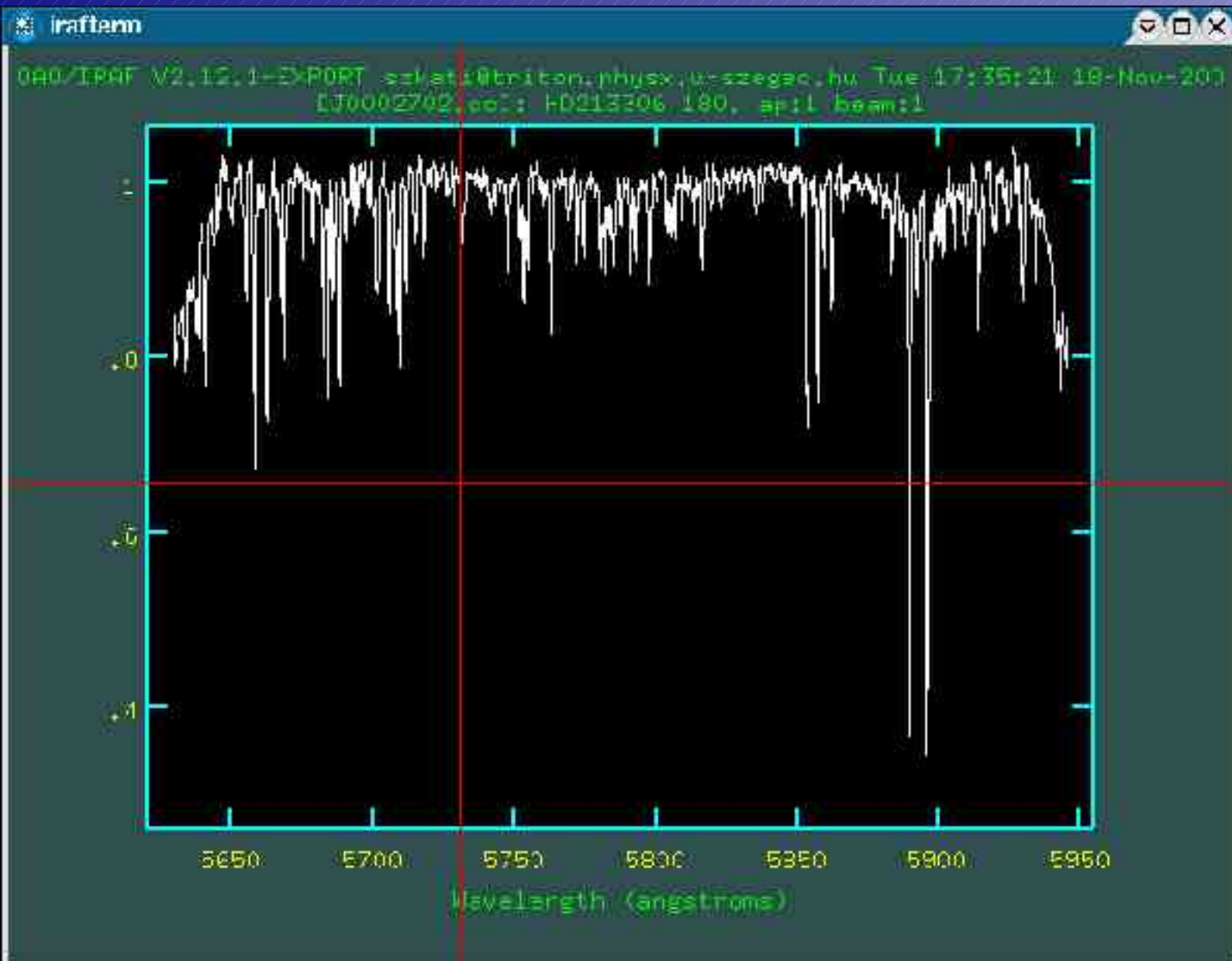
Noao => onedspec => *splot*
imred => echelle =>

```
splot
szkati@triton:~$ splot
IRAF
Image Reduction and Analysis Facility
PACKAGE = echelle
TASK = splot
More
(caldir = )_caldir) Directory containing calibration data
(fnuzero= 3.6800000000000000E-20) Absolute flux zero point

# PARAMETERS USED IN INTERACTIVE QUERIES
next_ima=      Next image to plot
new_imag=      Image to create
overwrit=      no Overwrite image?
spec2 =        Spectrum
constant=      Constant to be applied
waveleng=      Dispersion coordinate:
linelist=      File
wstart =       Starting wavelength
wend =         Ending wavelength
dw =           Wavelength per pixel
boxsize =      Smoothing box size (odd number)
(mode =       ql)

ESC-? for HELP
```

Spektrum



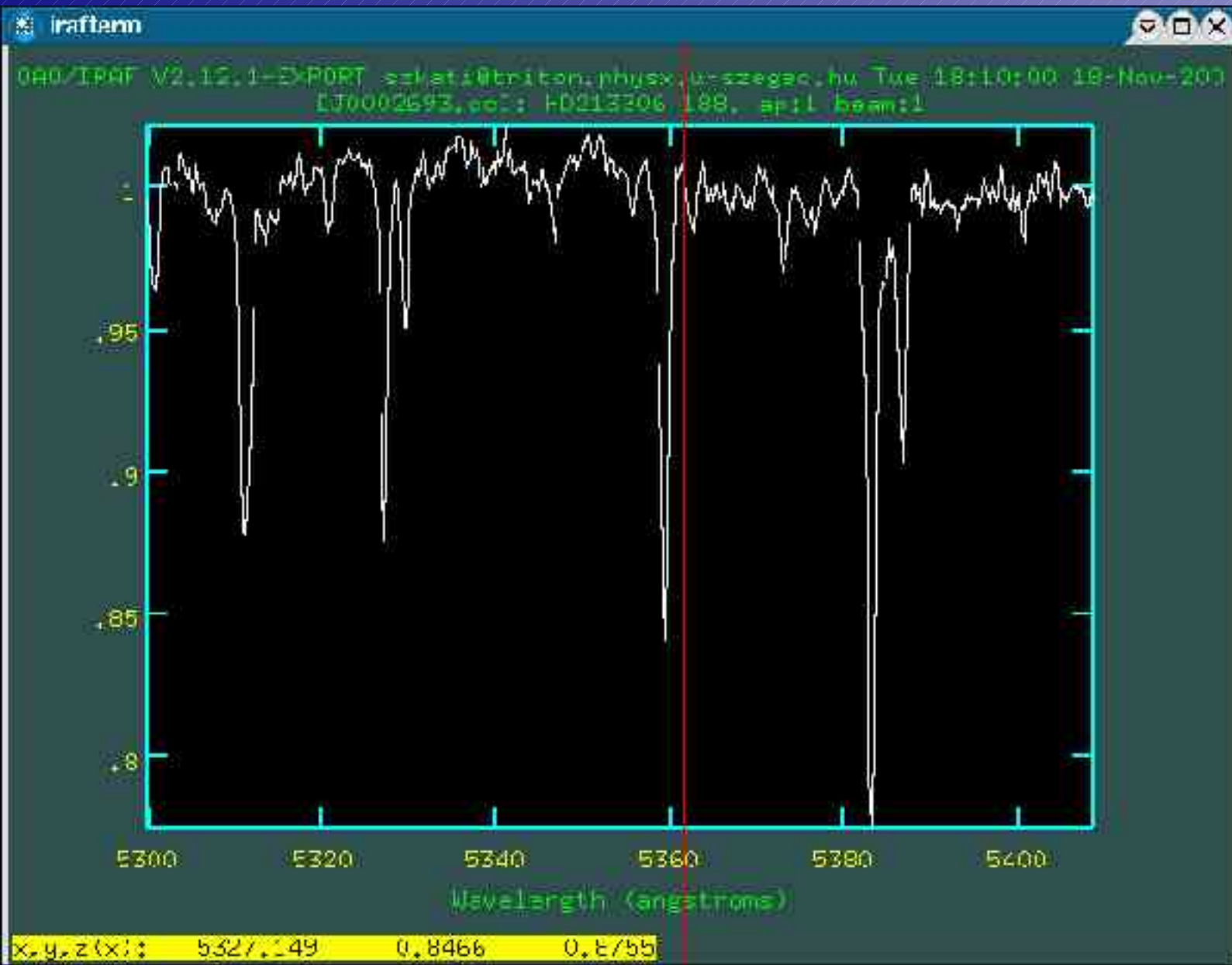
q : kilépés

Analízálás

Billenty? kombinációk:

- **2xa**: nagyítás
- **w+a**: egész spektrum megjelenítése
- **j**: javítás
- **i**: kép mentése
- **r**: újrarajzoltatás
- **()**: rendek közötti lépegetés
- **?**: help => **2xq**: visszalépés a grafikus ablakba

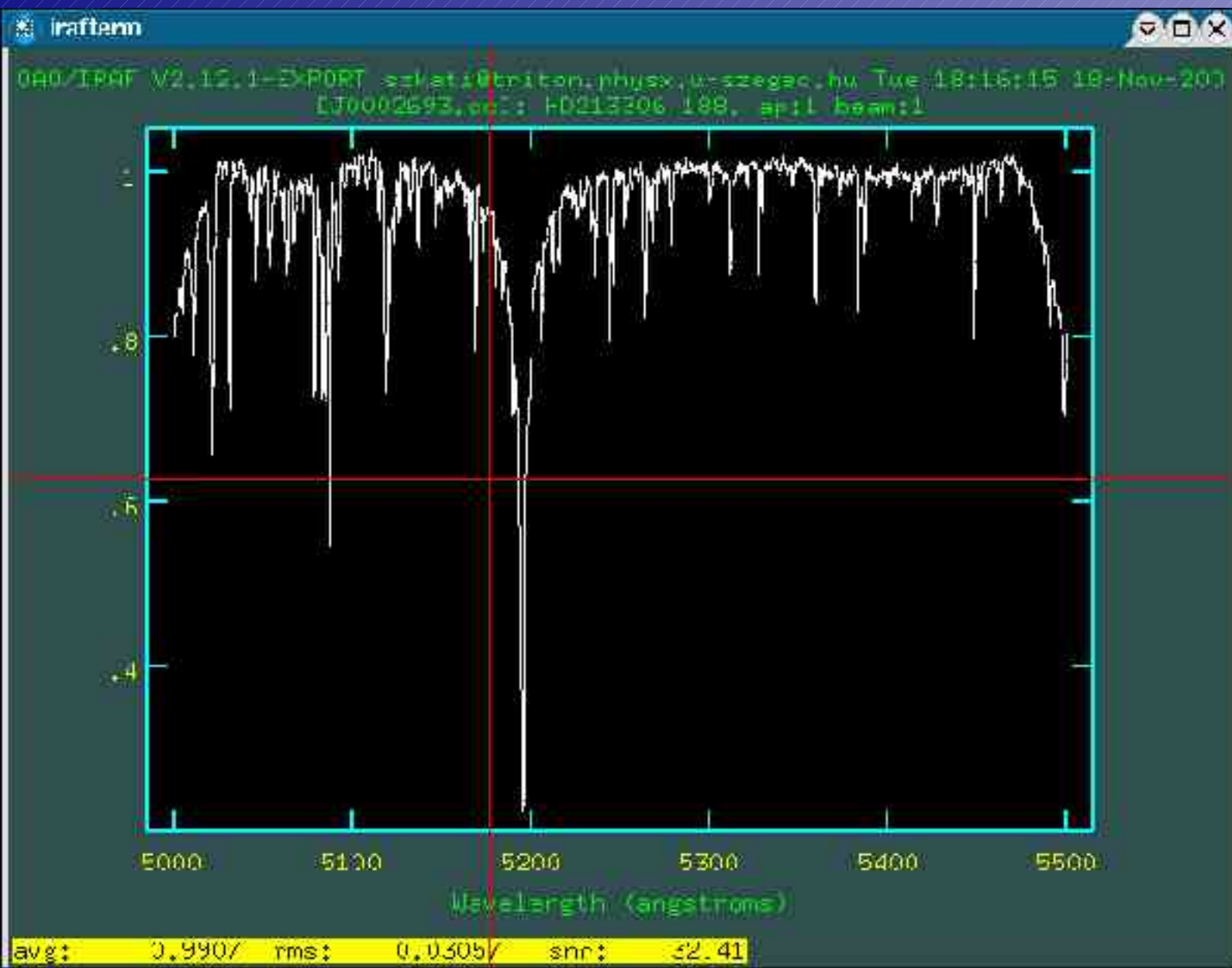
Analízálás



Space:

- x koordináta
- y koordináta
- a legközelebbi spektrum érték

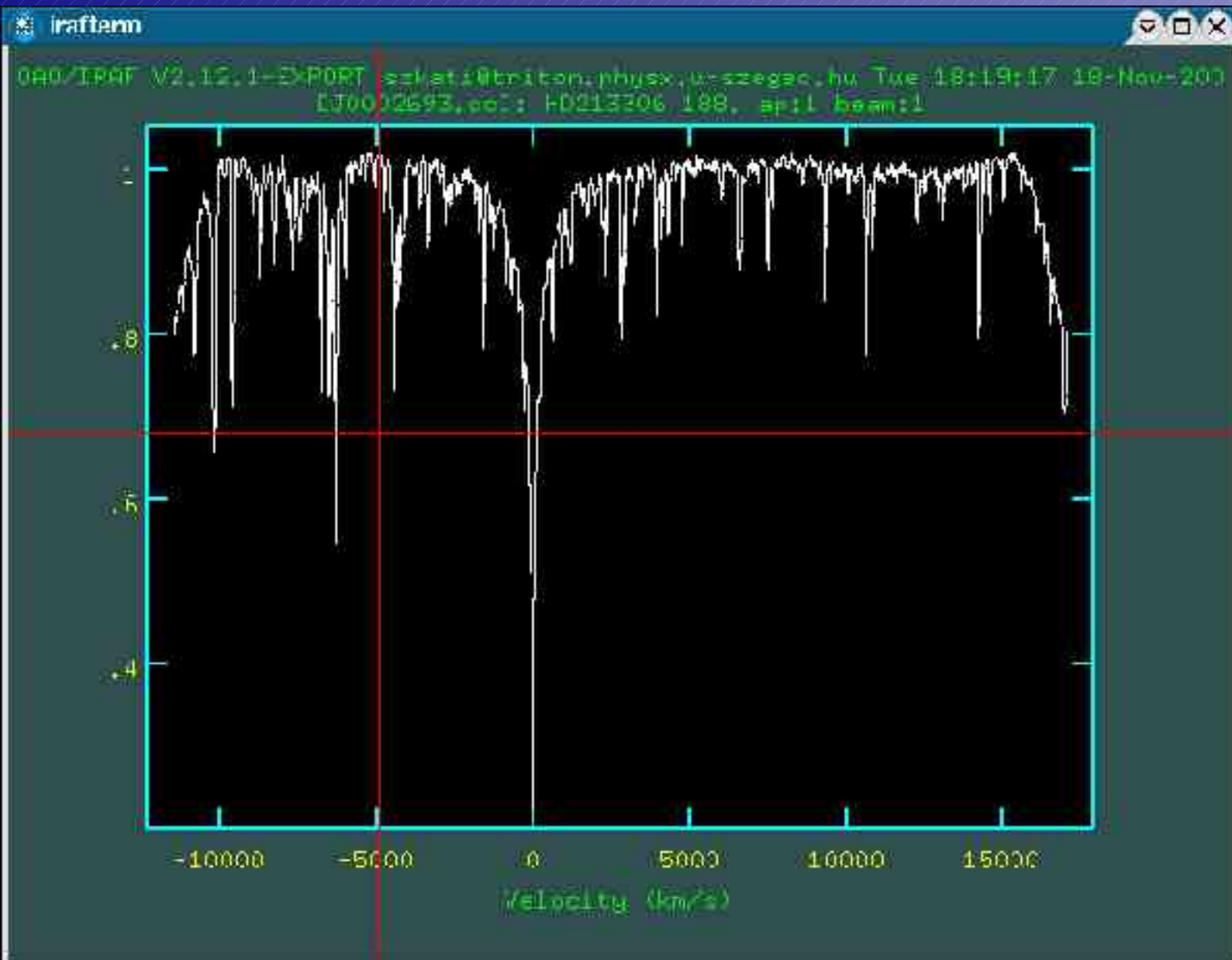
Analízálás



2 x m:

- Kijelölt szakasz
átlagértéke
- Szórás
- jel/zaj

Analízálás

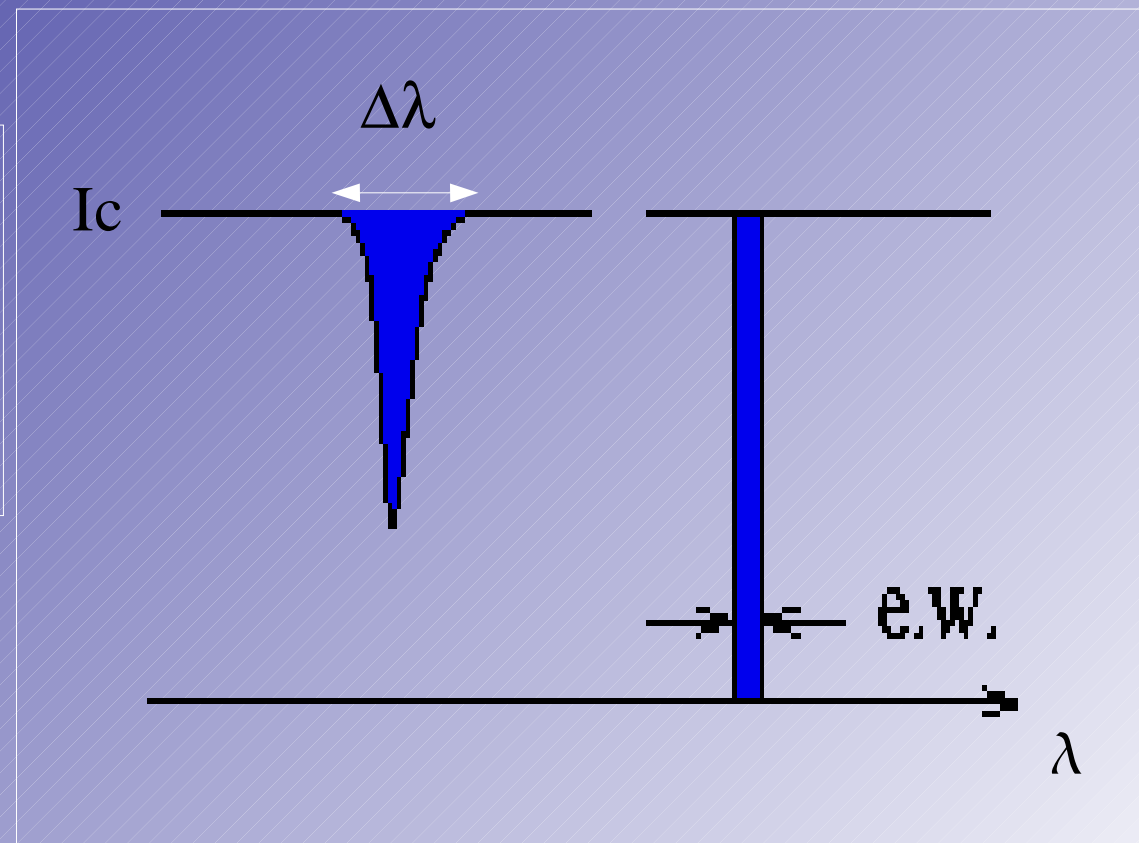


v:
Sebességskála =>
Mekkora
seb.eltolódásnak
felel meg a két
vonall eltérése

=> v: visszatérés

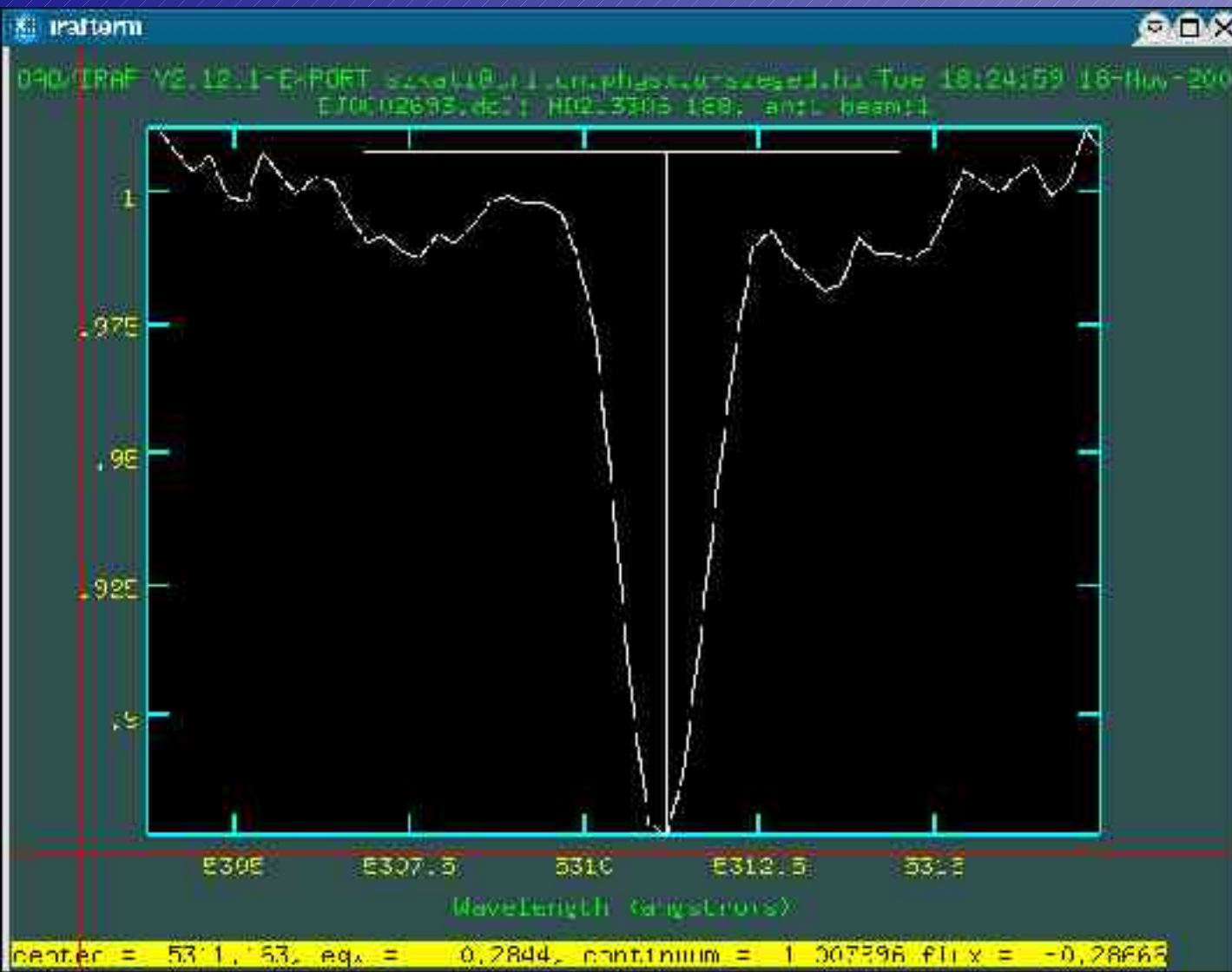
Ekvivalens vonalszélesség

$$W = \int_{\Delta\lambda} \frac{I_c - I_\lambda}{I_c} d\lambda$$



Ekvivalens vonalszélesség

1. módszer:



2 x e:

berajzolja a kontinuumot,

- vonal centruma,
- ekvivalens szélesség,
- Kontinuum

Ekvivalens vonalszélesség

2. módszer: Profilok illesztése



Két végpont:
k-k => Gauss-
görbe

Ekvivalens vonalszélesség

2. módszer:



Két végpont:
 $k-v \Rightarrow$ Voigt-
függvény

Ekvivalens vonalszélesség

2. módszer:

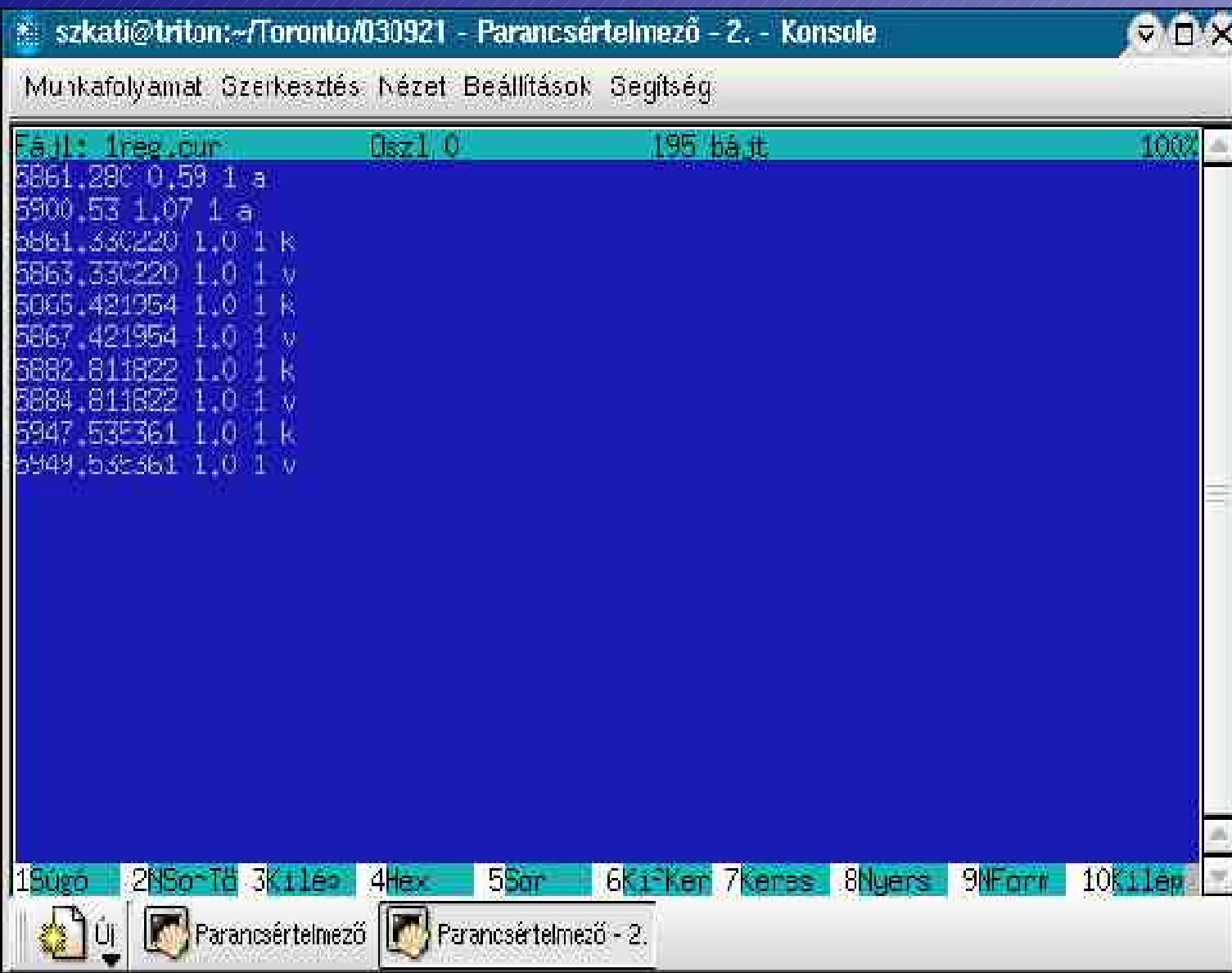


Két végpont:

k-1 => Lorentz-görbe

Ekvivalens vonalszélesség

Sokvonal esetén:



```
szkati@triton:~/Toronto/030921 - Parancsértelmező - 2. - Konszole
Munkafolyamat Szerkesztés Nézet Beállítások Segítség
Fájl: lreg.cur 0szl 0 195 bájt 100%
5861,280 0,59 1 a
5900,53 1,07 1 a
5861,330220 1,0 1 k
5863,330220 1,0 1 v
5065,421954 1,0 1 k
5867,421954 1,0 1 v
5882,811822 1,0 1 k
5884,811822 1,0 1 v
5947,535361 1,0 1 k
5949,535361 1,0 1 v
1Súgó 2Nó-Tá 3Kilép 4Hex 5Sor 6Ki-Ker 7Keres 8Nyers 9NForr 10Kilép
```

Cursor file készítés.

Ekvivalens vonalszélesség

Sokvonal esetén:

```
szkati@triton:~  
IRAF  
Image Reduction and Analysis Facility  
PACKAGE = onedspec  
TASK = splot  
  
images = J0002693.dc List of images to plot  
line = 1 Image line/aperture to plot  
band = 1 Image band to plot  
(units = ) Plotting units  
(options= auto wreset) Combination of plotting options:  
auto, zero, xydraw, histogram,  
nosysid, wreset, flip, overplot  
(xmin = INDEF) Minimum X value of initial graph  
(xmax = INDEF) Maximum X value of initial graph  
(ymin = INDEF) Minimum Y value of initial graph  
(ymax = INDEF) Maximum Y value of initial graph  
(save_fi= splot.log) File to contain answers  
(graphic= stdgraph) Output graphics device  
(cursor = 1reg.cur) Graphics cursor input  
  
# PARAMETERS FOR ERROR ANALYSIS  
(nerrsam= 0) Number of error samples (<10 for no errors)  
More  
ESC-? for HELP
```

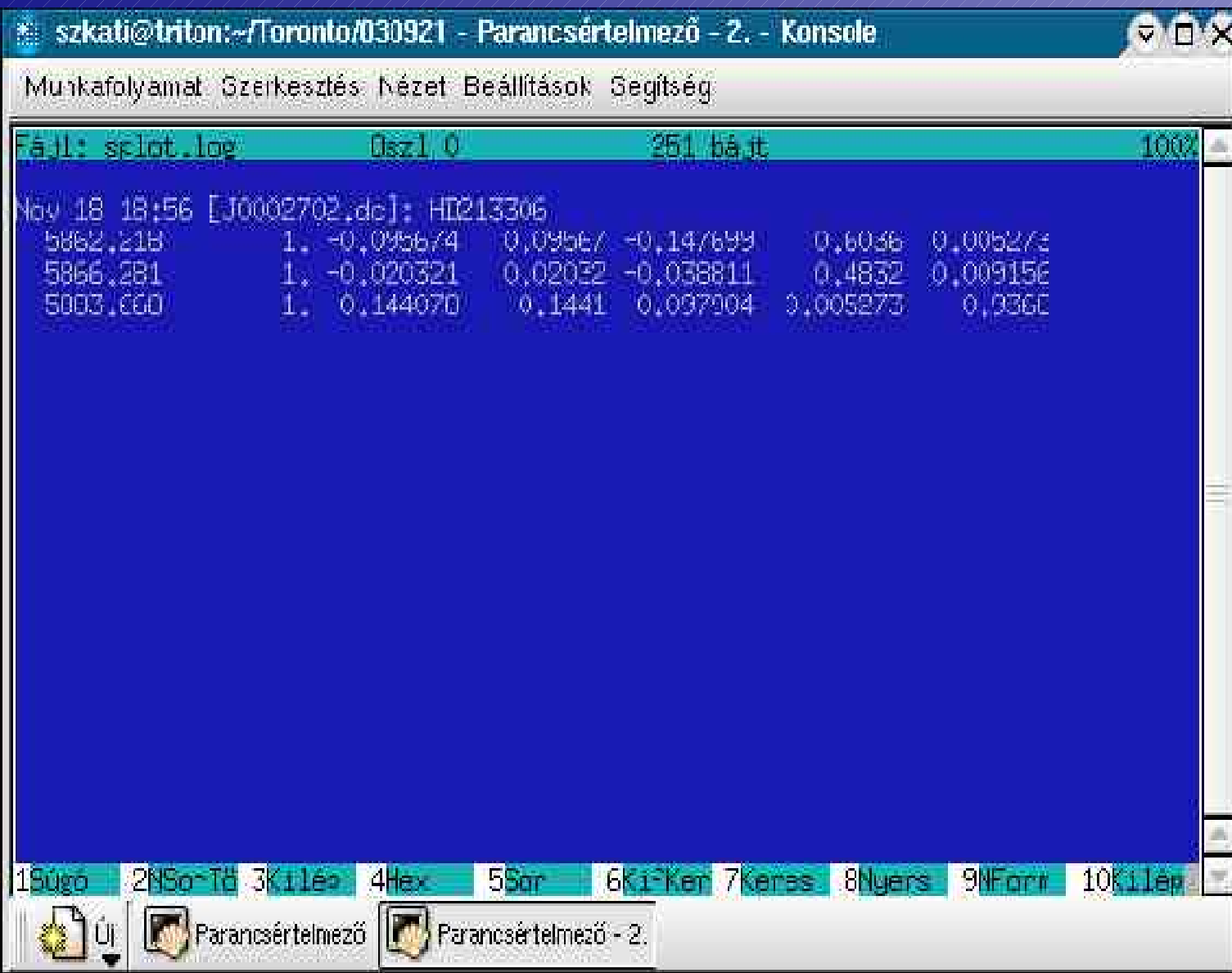
Ekvivalens vonalszélesség

Sokvonal esetén:



Ekvivalens vonalszélesség

Sokvonal esetén:



The screenshot shows a terminal window titled "szkati@triton:~/Toronto/030921 - Parancsértelmező - 2. - Konszole". The window displays a multi-line plot of data points. The plot has a blue background and white text. The data points are arranged in a grid-like pattern, with each point consisting of a numerical value followed by a series of smaller numerical values. The plot is titled "Név: 18 18:56 [J0002702.dc]: HD213306".

```
Név: 18 18:56 [J0002702.dc]: HD213306
5862.218      1. -0.095674  0.095674 -0.147699  0.6036  0.005273
5866.281      1. -0.020321  0.020321 -0.038811  0.4832  0.009156
5003.660      1.  0.144070   0.1441    0.097004  0.005273  0.936E
```

The terminal window also shows a status bar at the bottom with various icons and text, including "1Sugó", "2NSo-Tö", "3Kilés", "4Hex", "5Sor", "6Ki-Ker", "7Kerés", "8Nyers", "9NForr", "10Kilés".