EZ

(/'i:.zi/)

Easy Z

Starring
(in strict alphabetical order)

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The scope

The scope of this work is to create a new tool for redshift measurement based on the huge amount of work done up to now within the VIMOS consortium

- algorithms (KBRED/VIZ/YAZ by RS)

- scientific expertise (thousands of spectra reduced)

- technical expertise (GUI and software development, VIPGI)

User requirements

- Automatic measurements
  - 50% correct z
  - 30% within 0.1
  - 20% to be inspected

- Interactive measurements (command line & GUI)

- Simple management of user defined templates

- Stand-alone application

- Easy pluggable in other packages (like VIPGI)

Software requirements

- Programming languages

  python (shell+GUI): knowledge
  easiness
  almost a standard (OPTICON, pyraf, …)
  easily pluggable in other tools
  free

  C (algorithms): knowledge
  speed
  free

- Interface between shell/GUI and algorithms

- other technicalities

Current Status

- Defined an architectural design document (AD)

- python-C interface protocol defined and implemented

- First prototype of the graphical interface

- Partial implementation of the interactive shell

- Very basic algorithms implemented and working

It is already possible to:

- process a spectrum and obtain a redshift estimate

- visually inspect the various steps of the procedure

- visually inspect the spectrum/template

File View Help

Control Center

Templates

Template type:

galaxy

Template list:

tspec1
tspec3
tspec2
tspec5
tspec4

Red shift

Redshift 0.9398

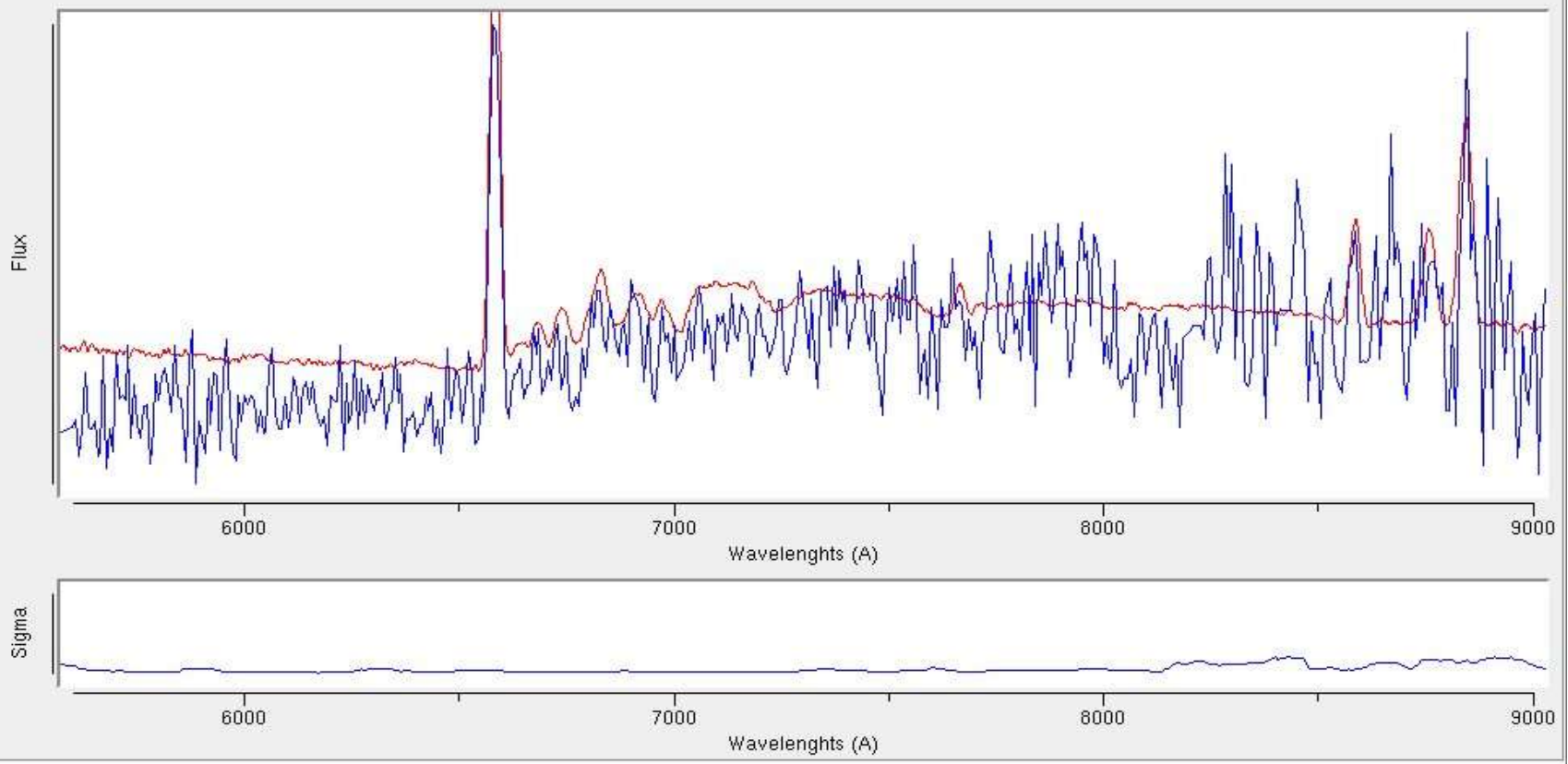
Best redshift

Redshift list:

0.7662
0.0026
0.3154
1.3738
0.3476

File View Help

Spectra



File View Help

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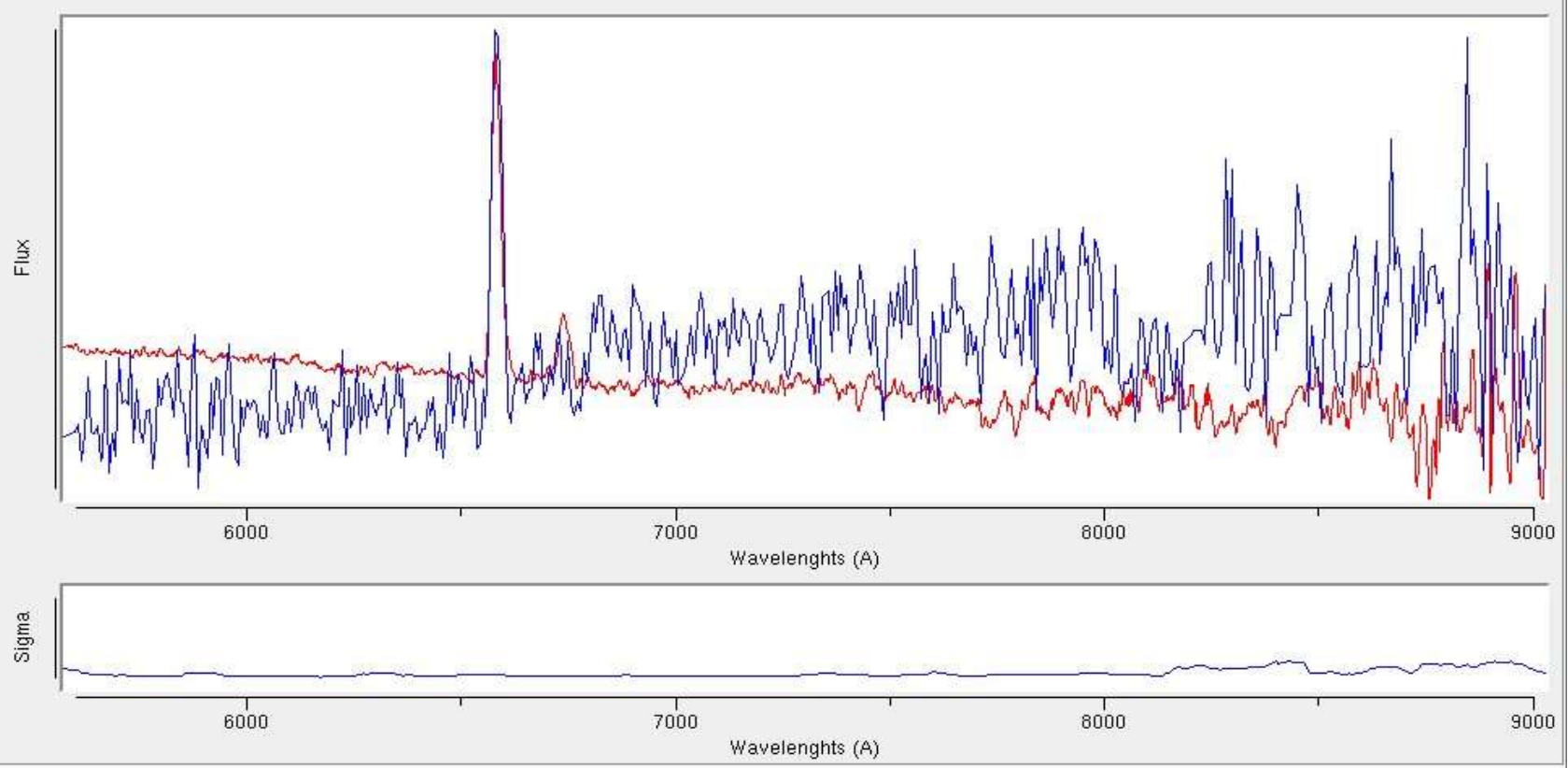
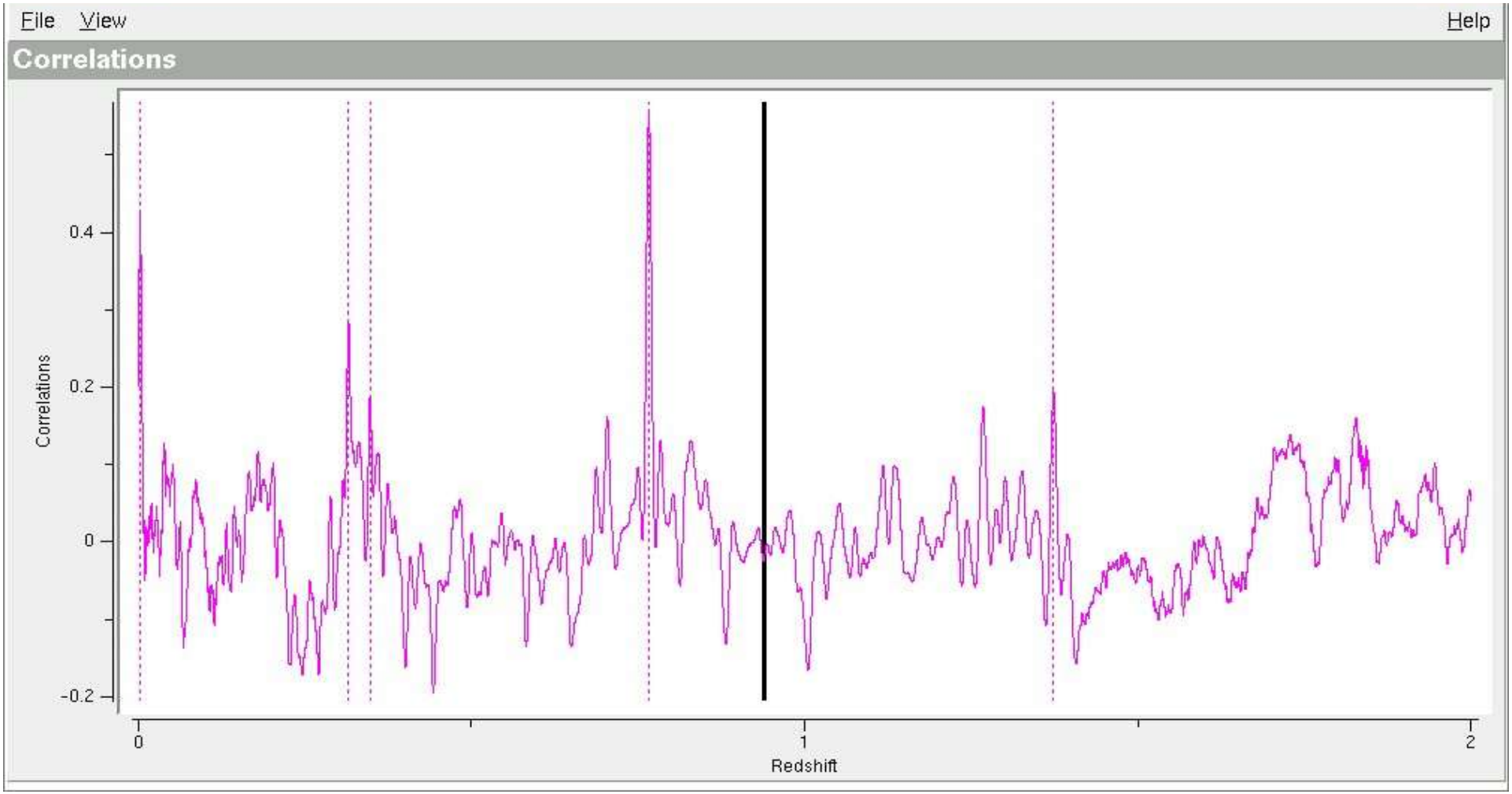
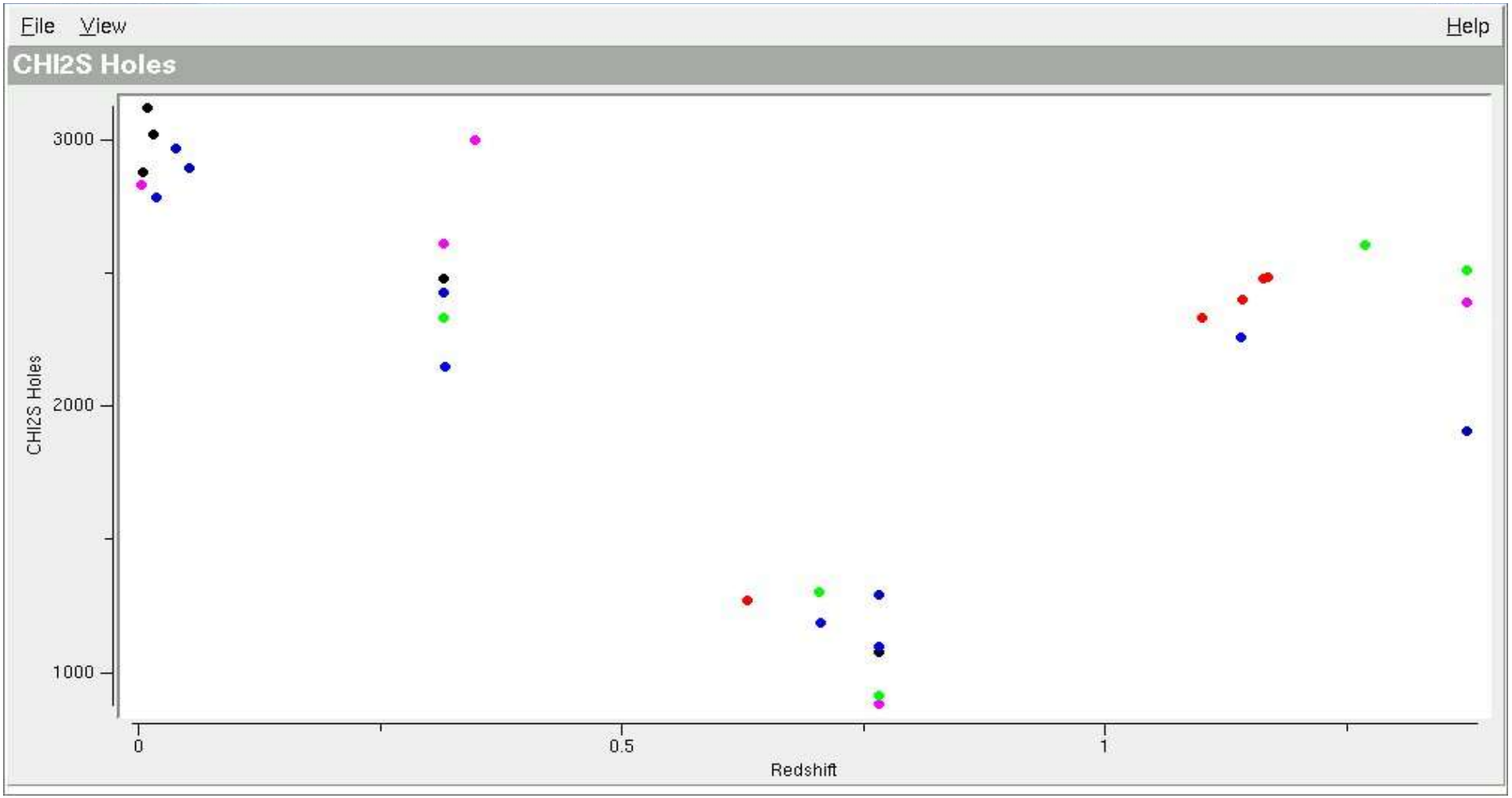
Spectra




File
View
Help
Correlations
0.4
0.2
0
-0.2
Correlations
0
1
2
Redshift

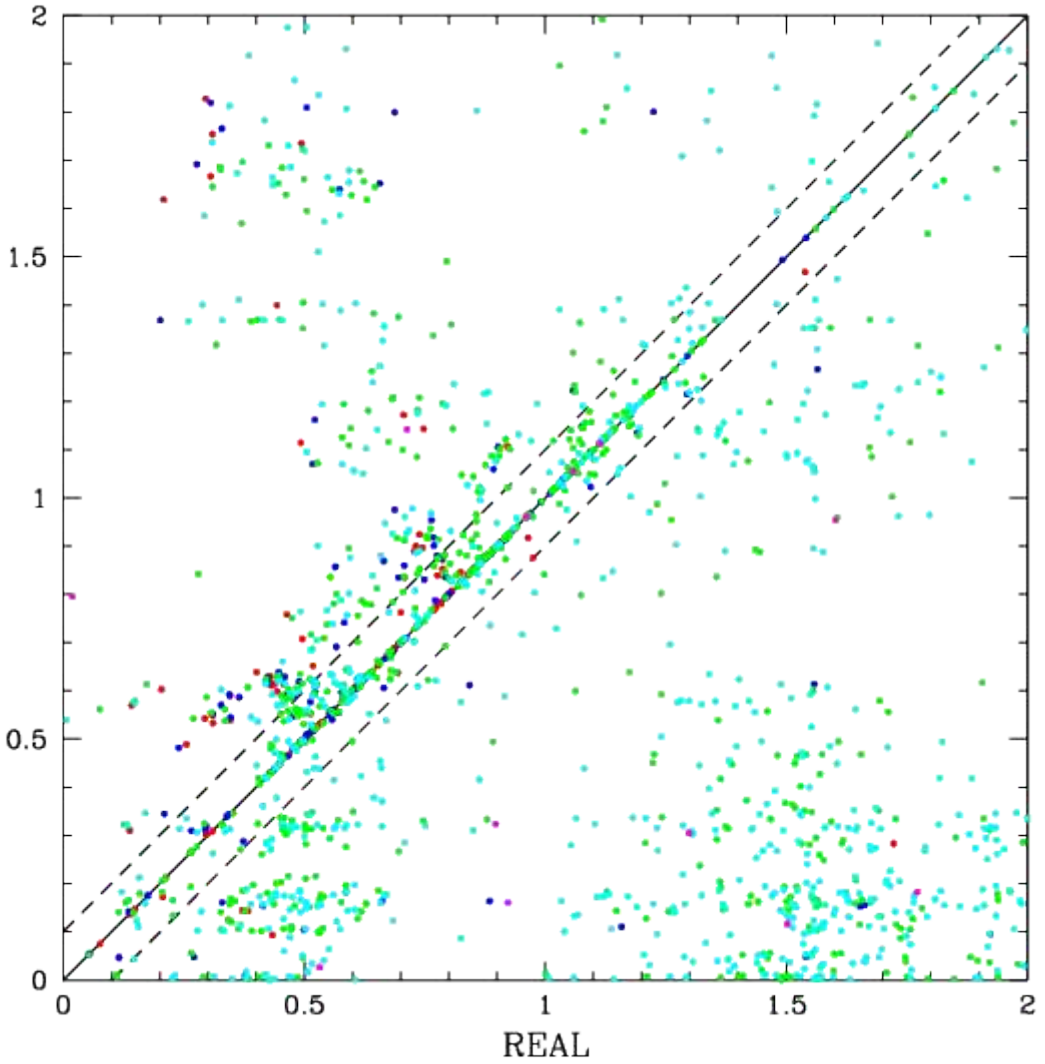

File View
Help
CHI2S Holes
3000
2000
1000
CHI2S Holes
0
0.5
1
Redshift

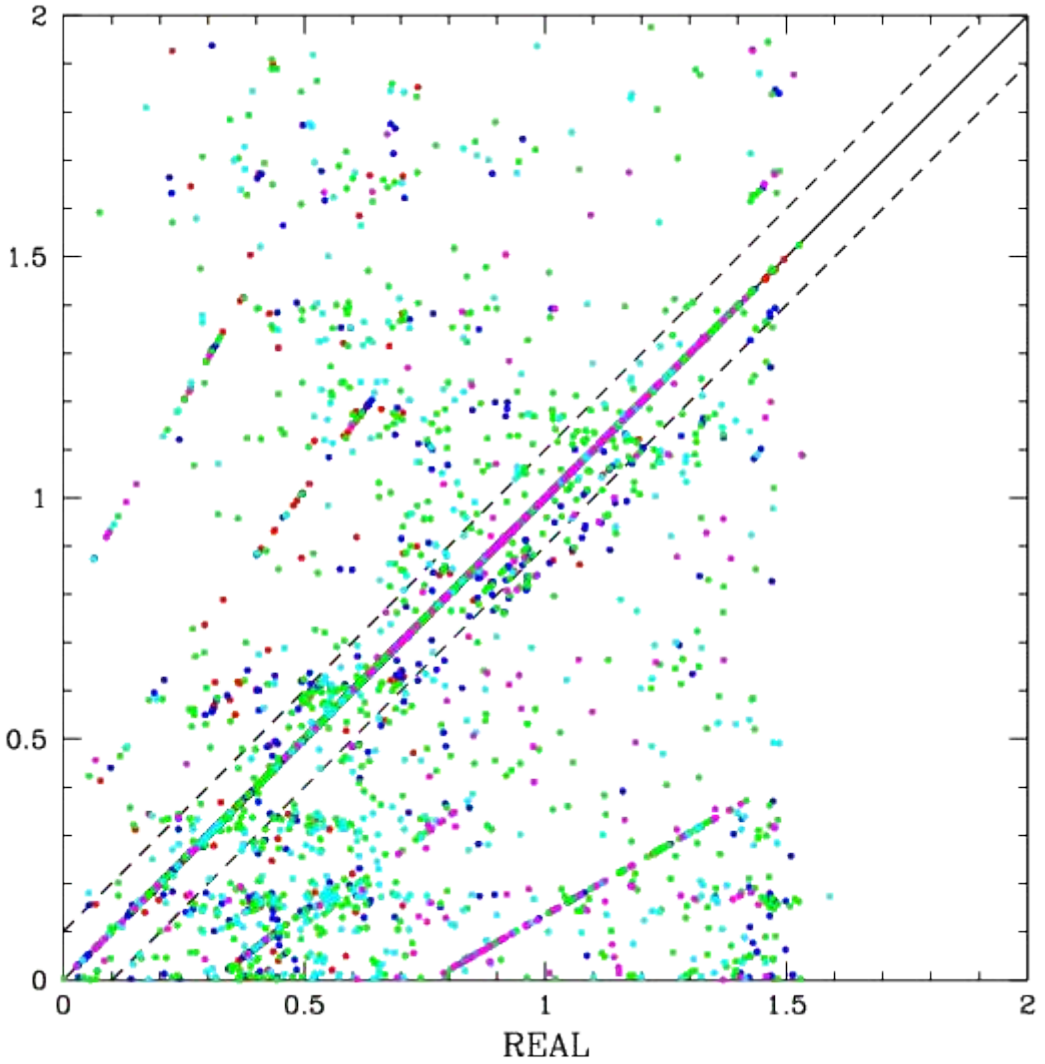
Future work

- Finish implementation of AD and GUI (end of the year)
  Distribution at the IASF-MI people and other volunteers

- Algorithms development (in parallel)
  - Short term: reproduce the actual MANYVIZ/YAZ performance
  - Long term: develop new approaches in redshift measurement
    (2D noise fitting ... RS)

- Testing framework: templates
  simulations
  real data (in place)


2
1.5
1
0.5
0
0
0.5
1
1.5
2
REAL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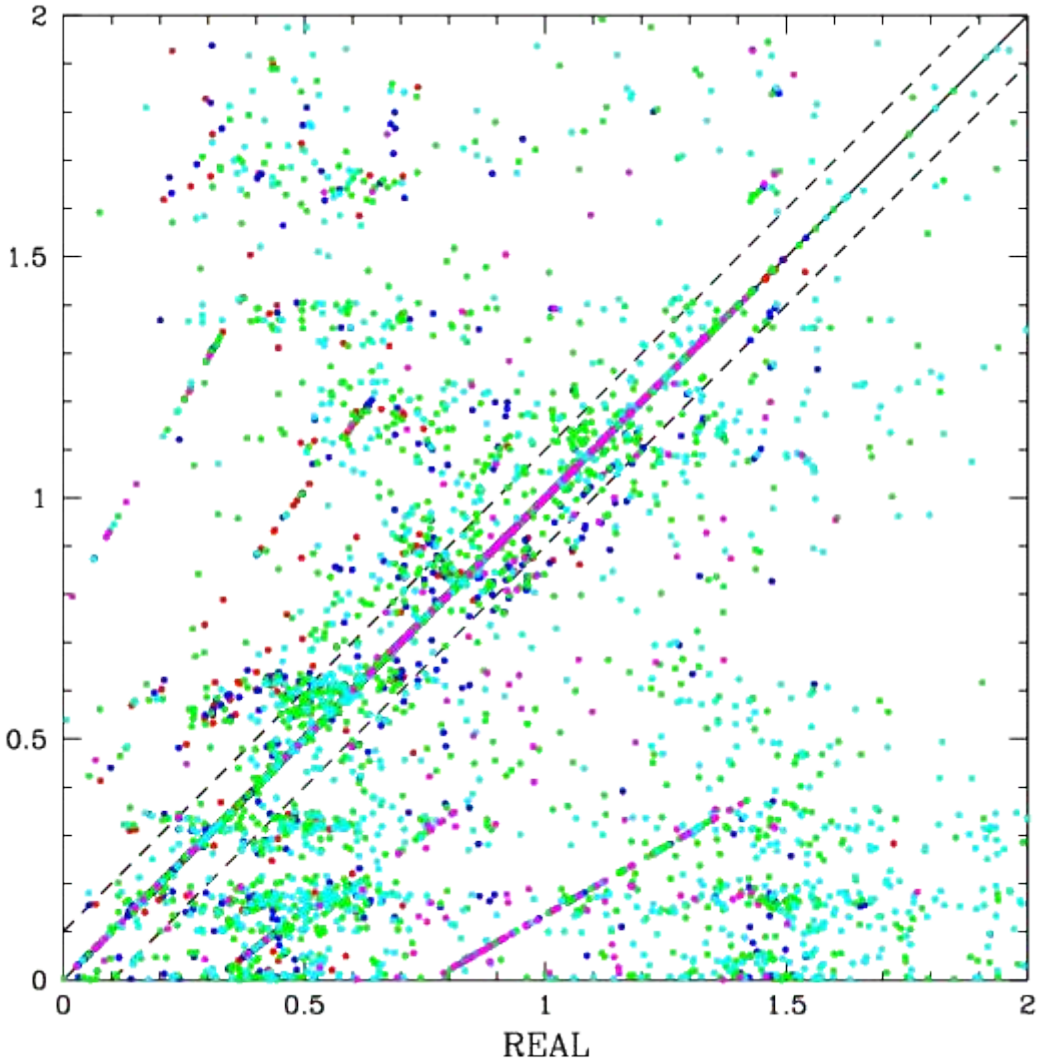
1
0.5
0
0
0.5
1
1.5
2
REAL


2
1.5
1
0.5
0
0
0.5
1
1.5
2
REAL