Visualisation Interface
to the
Virtual Observatory

VisIVO

VisIVO: new features

INAF – Catania Astrophysical Observatory

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VisIVO 1.1 stable version is available

Gnu-Linux and Windows
(MAC in progress)

C++/ VTK app.

VisIVO is an advanced visualization tools that can help the researcher in investigating and extracting information from large and complex datasets. VisIVO blends high performance multidimensional visualization techniques and up-to-date technologies to cooperate with other applications and to access remote distributed data archives.

VisIVO: visualization and properties discovery

Complex tables can be loaded and manipulated, new fields can be derived and finally represented graphically, using points, colours, transparencies, surfaces, glyphs and volume rendering.
The first step of a working session is usually data loading. Data can be read from files; VisIVO supports different kinds of file formats: standard file formats, like VOTables, FITS, HDF5, ASCII, raw binaries and the native data format of the popular Gadget simulation code

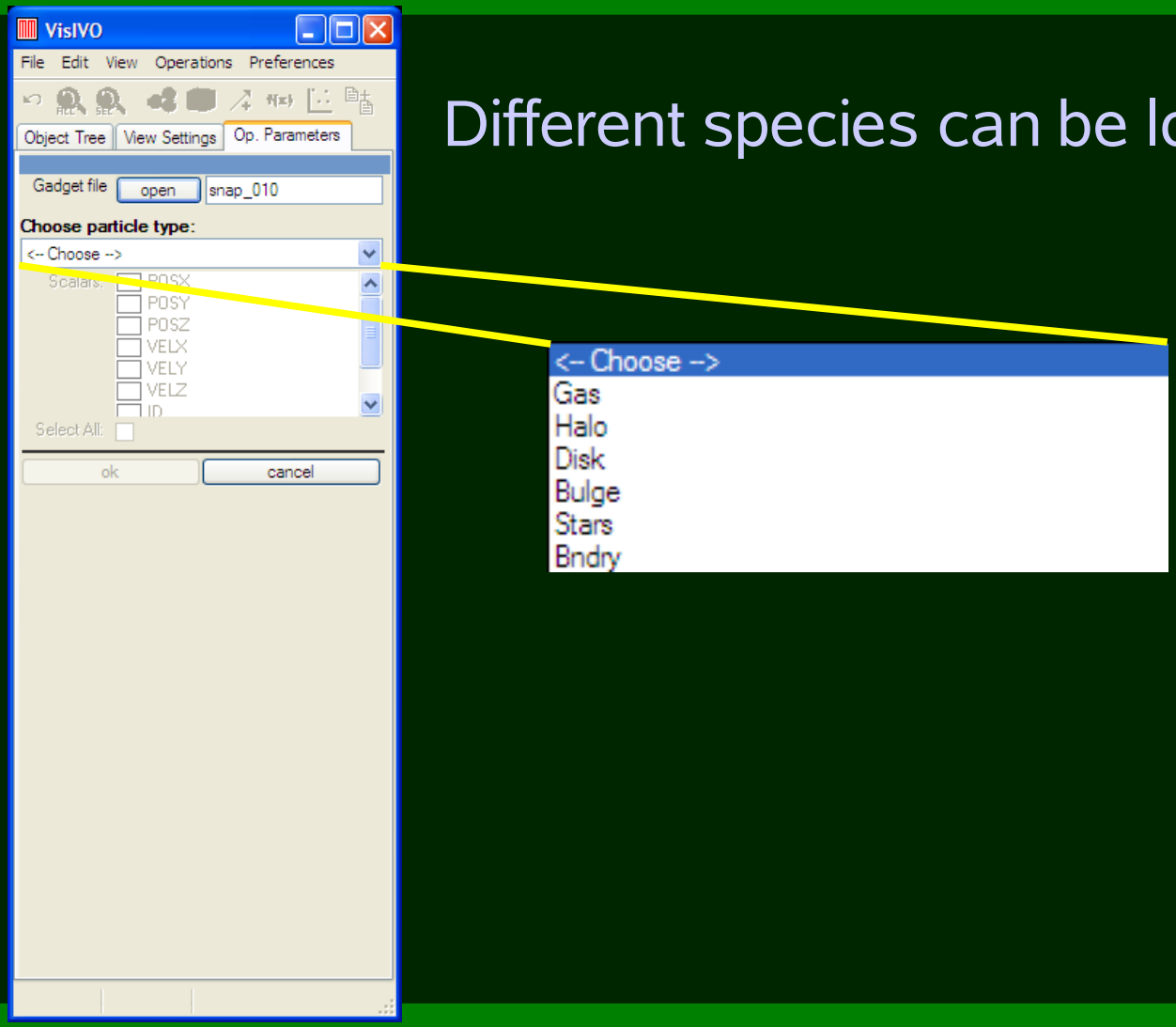
New Features: May 2006 - May 2007

- Interoperability: PLASTIC
- Gadget file format reader
- Expression Maker
- Flexible 2D plots
- Table Merger
- Data scaling
- Isosurface Smoothing

Main improvements

- Stable GNU/Linux release
- Fully functional PLASTIC Interface
- Automatic creation of descriptor files for binary files
- Random subsampler during loading
- New (simpler) User Guide
- Simpler User Interaction

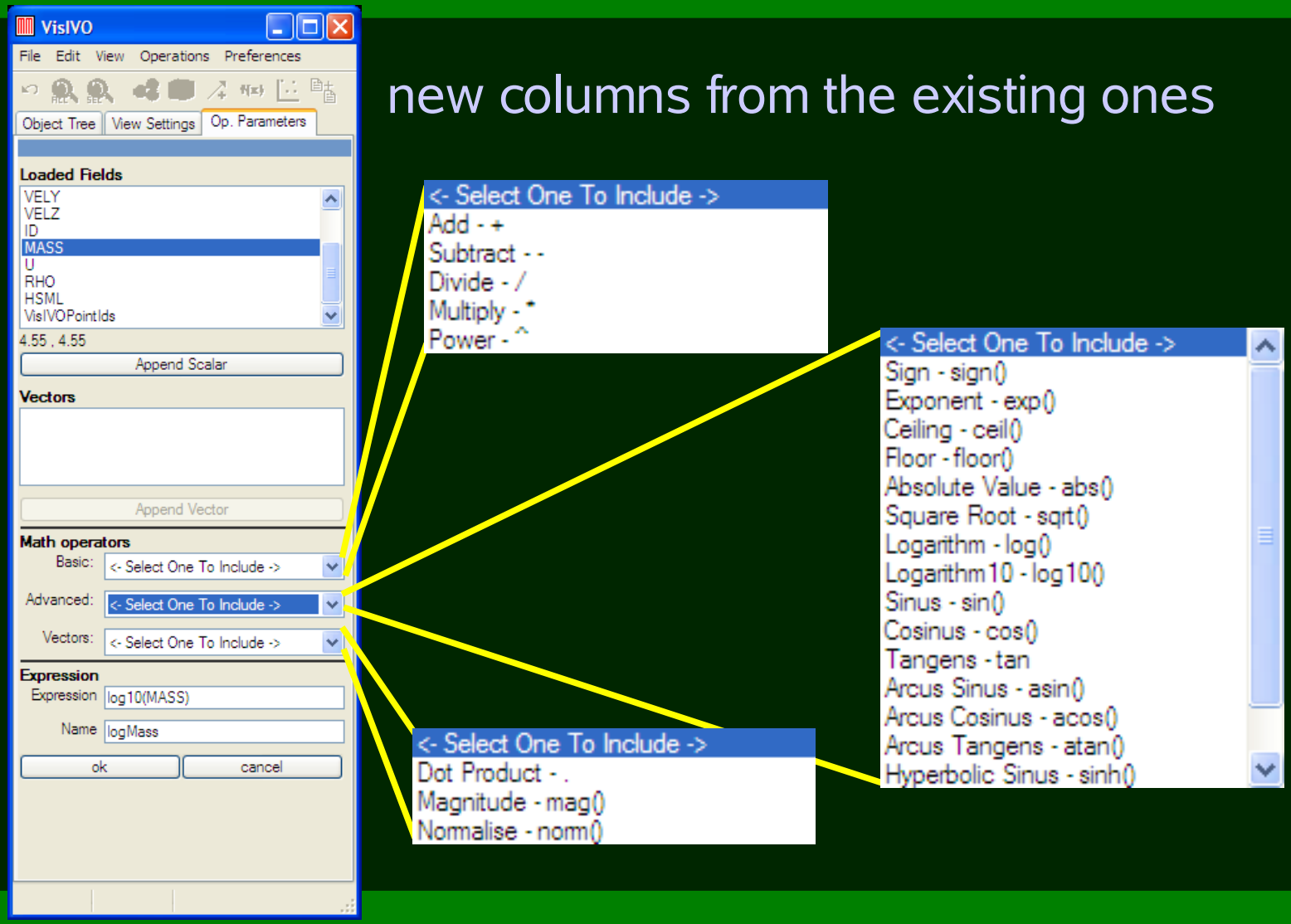
New Gadget file importer



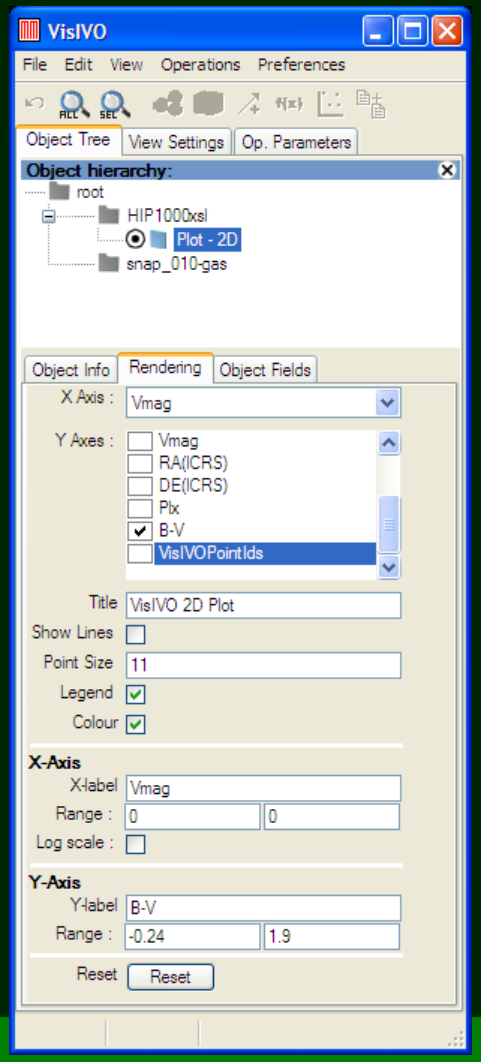
Different species can be loaded

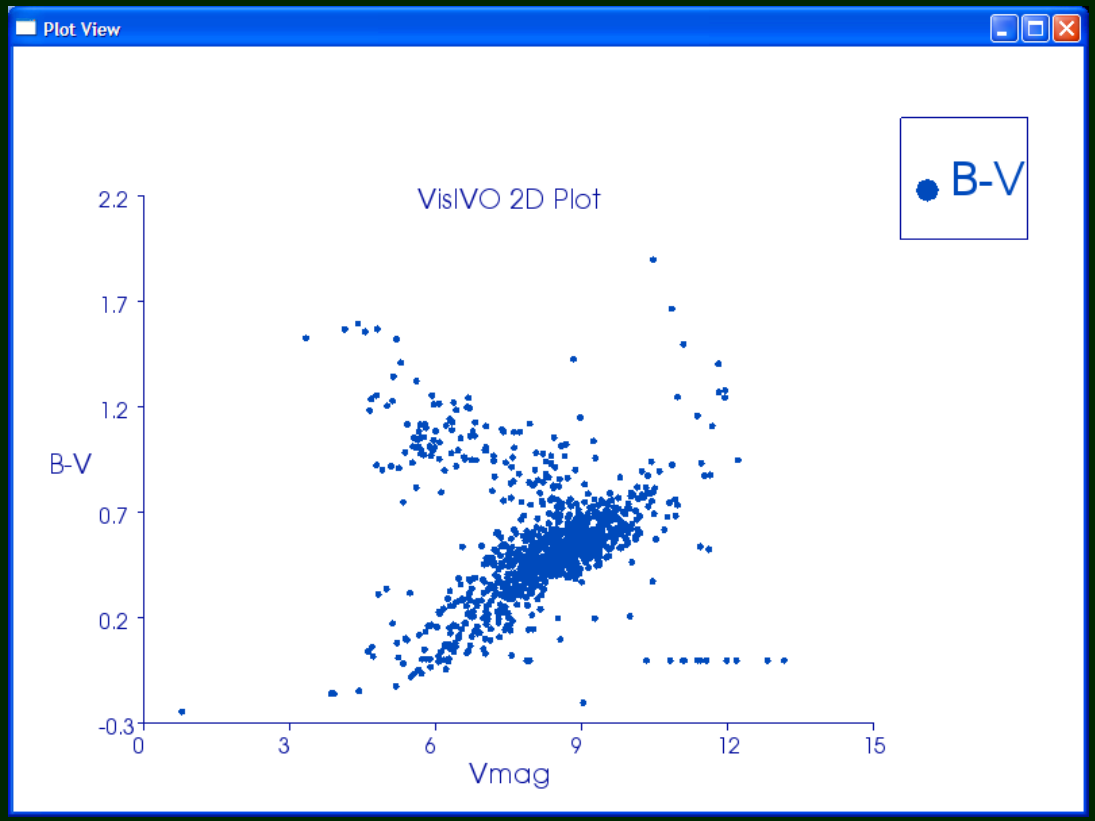
New math operation

new columns from the existing ones



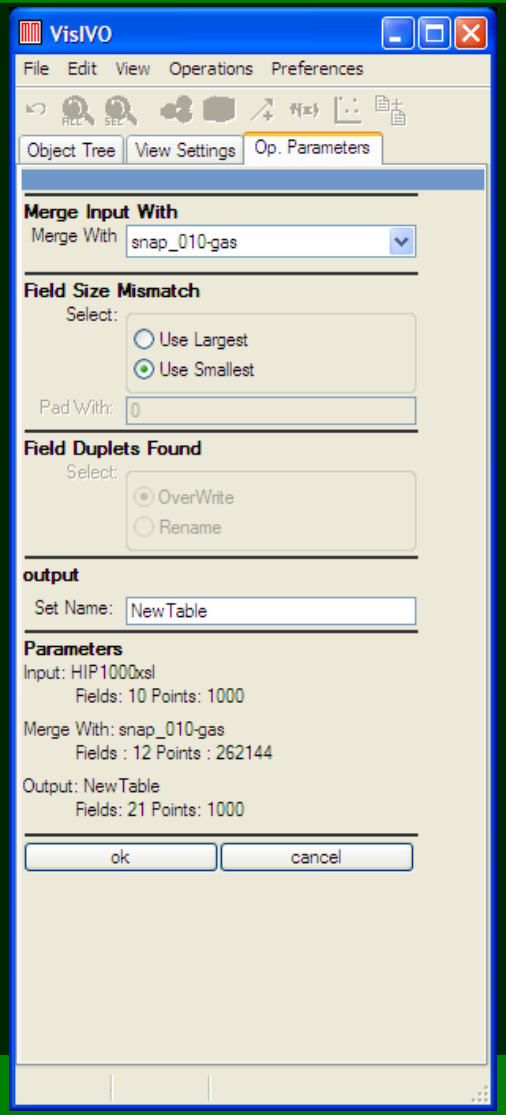
Flexible 2D Plot





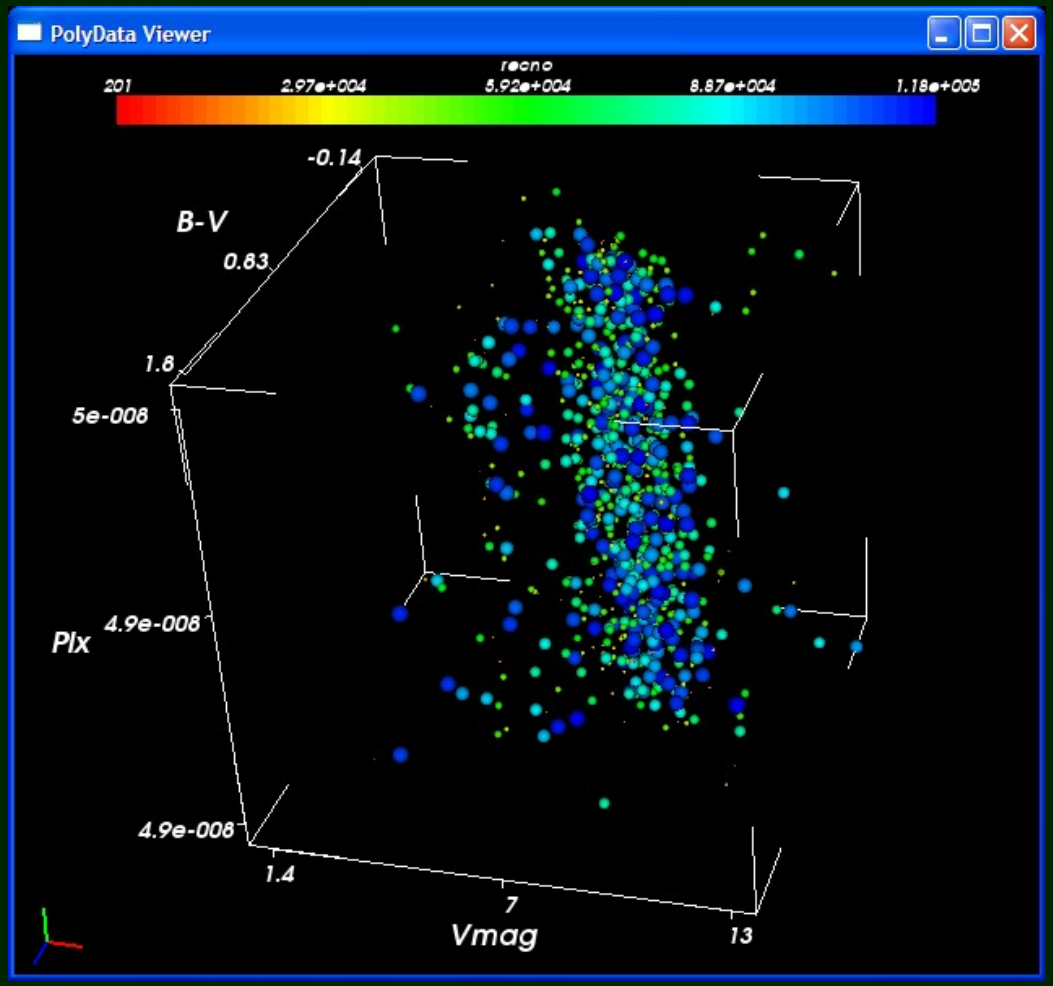
Flexible 2D Plots

Table Merger



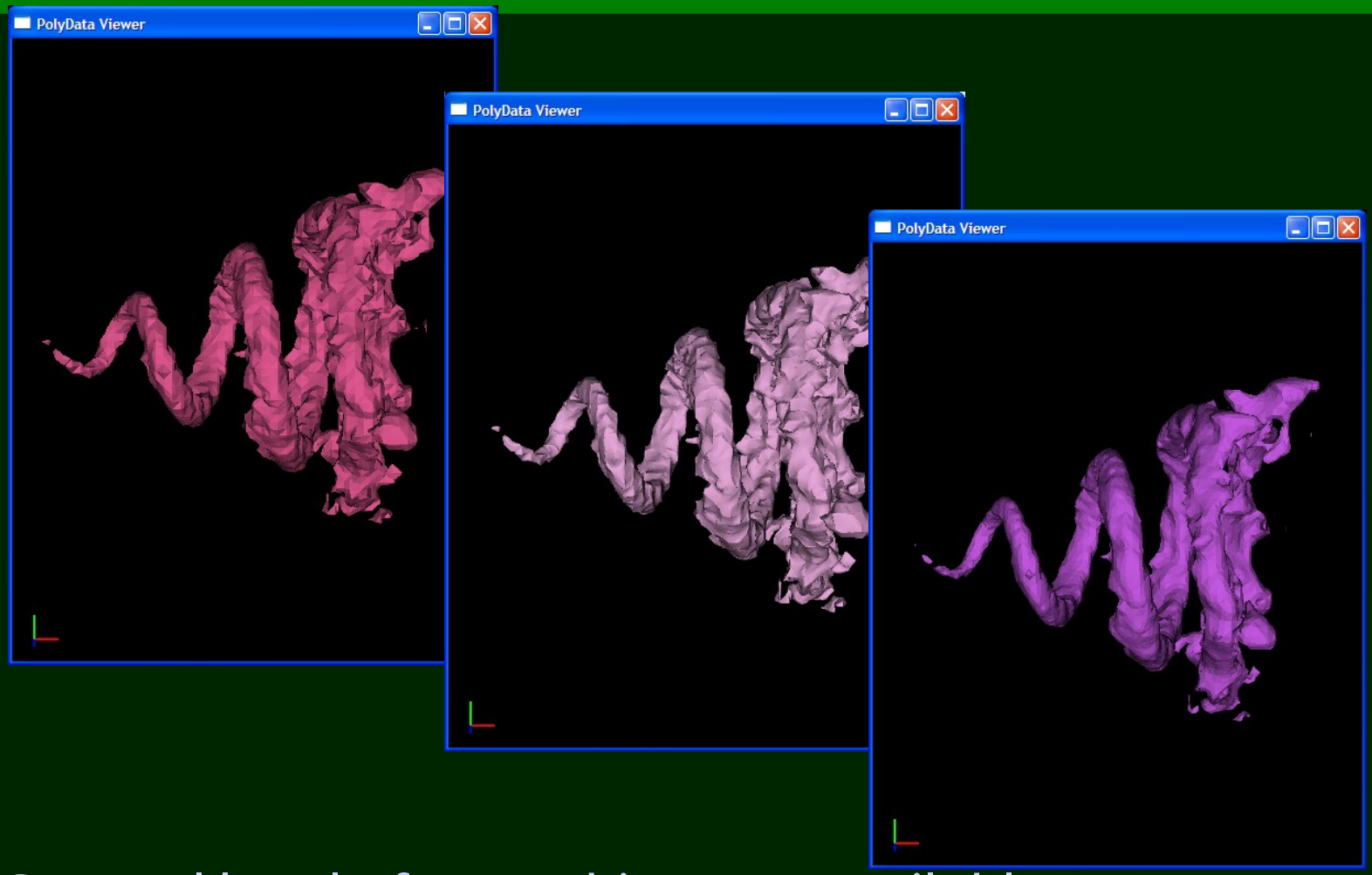
A new table can be created and stored from two or more tables

Data Scaling



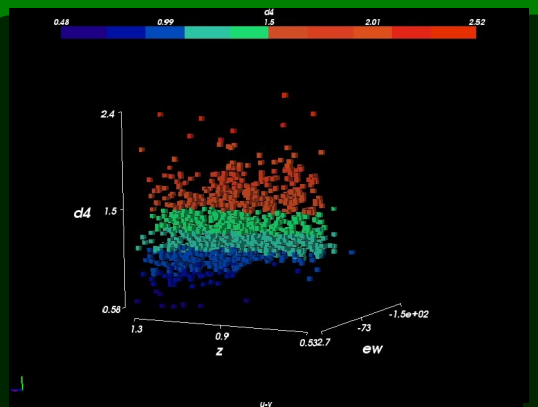
The Box dimension is normalized to the effective scale on each axis

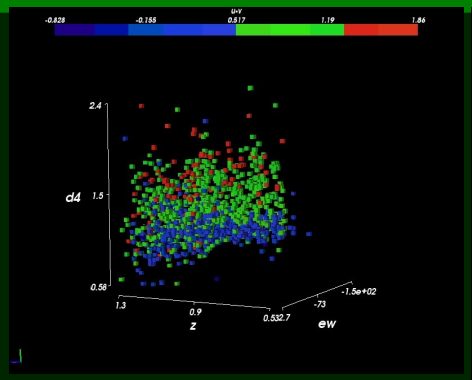
Isosurface Smoothing

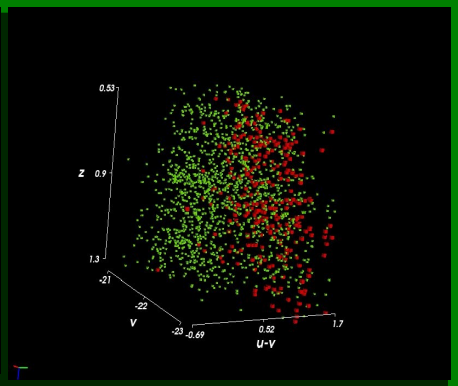


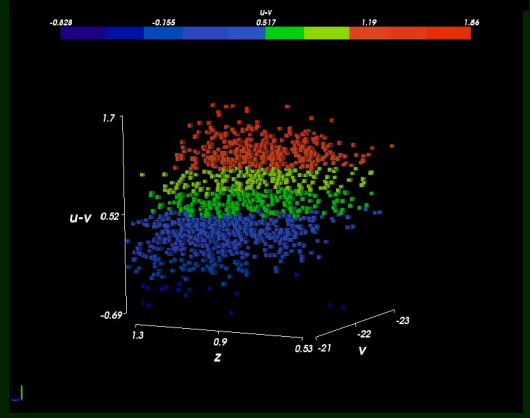
Several level of smoothing are available

VisIVO for science: Galaxies Classification (from Comparato et. al. A&A 2007)





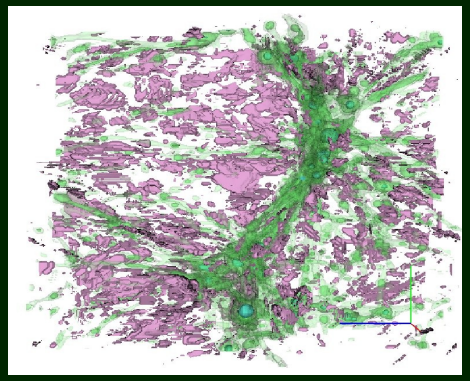


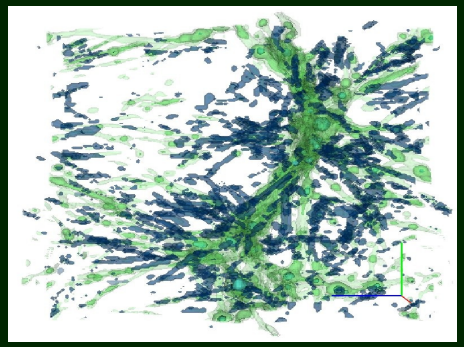


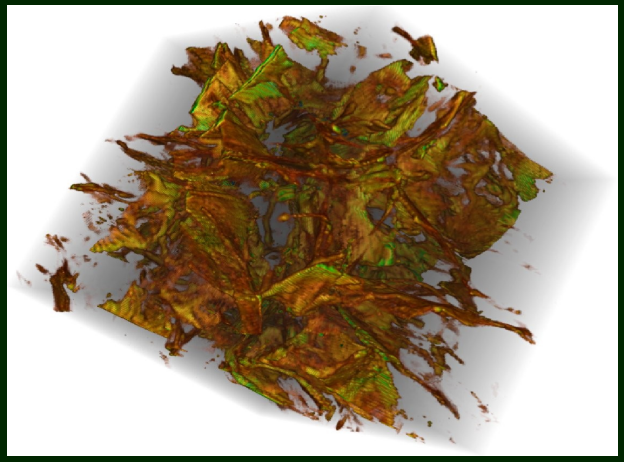
Top (a): D4000 vs. [OII] vs. redshift data cube. The red sequence galaxies are indicated as red, the bluest one in blue, while green dots are galaxies in between.
Bottom (b): colour magnitude diagram vs. redshift: red dots are now galaxies with old stellar age and no sign of star formation

Evolution of abundance of star forming galaxies with redshift: on the top we show the spectrophotometric indicators D4000 and [OII], on the bottom the photometric indicators U-V and Mv. In both cases, a trend of increased abundance of galaxies showing low star age (top) and bluer colours (bottom) at higher redshifts is visible

VisIVO for science:
Detecting Shocks in Galaxy Clusters







The overall volume distribution of shocks. The Mach number increases from red to green to blue

Shocked regions for two different density values, corresponding to the Mach number peaks of figure. The top panel shows the surface a Mach>2.5 for the right peak (blue surface). The bottom panel shows the surface at Mach>2.5 for the left peak (violet surface). For comparison a mass density isosurface is shown (green surface in both panels)

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Website:
http://visivo.cineca.it

Support:
visivo@cineca.it