Introduction and Application to TOPCAT

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CTGU/NAOC

- Tool for operations on catalogues and tables
- *Does what you want with tables*
- *Developed mostly in the UK within various UK and Euro-VO projects*

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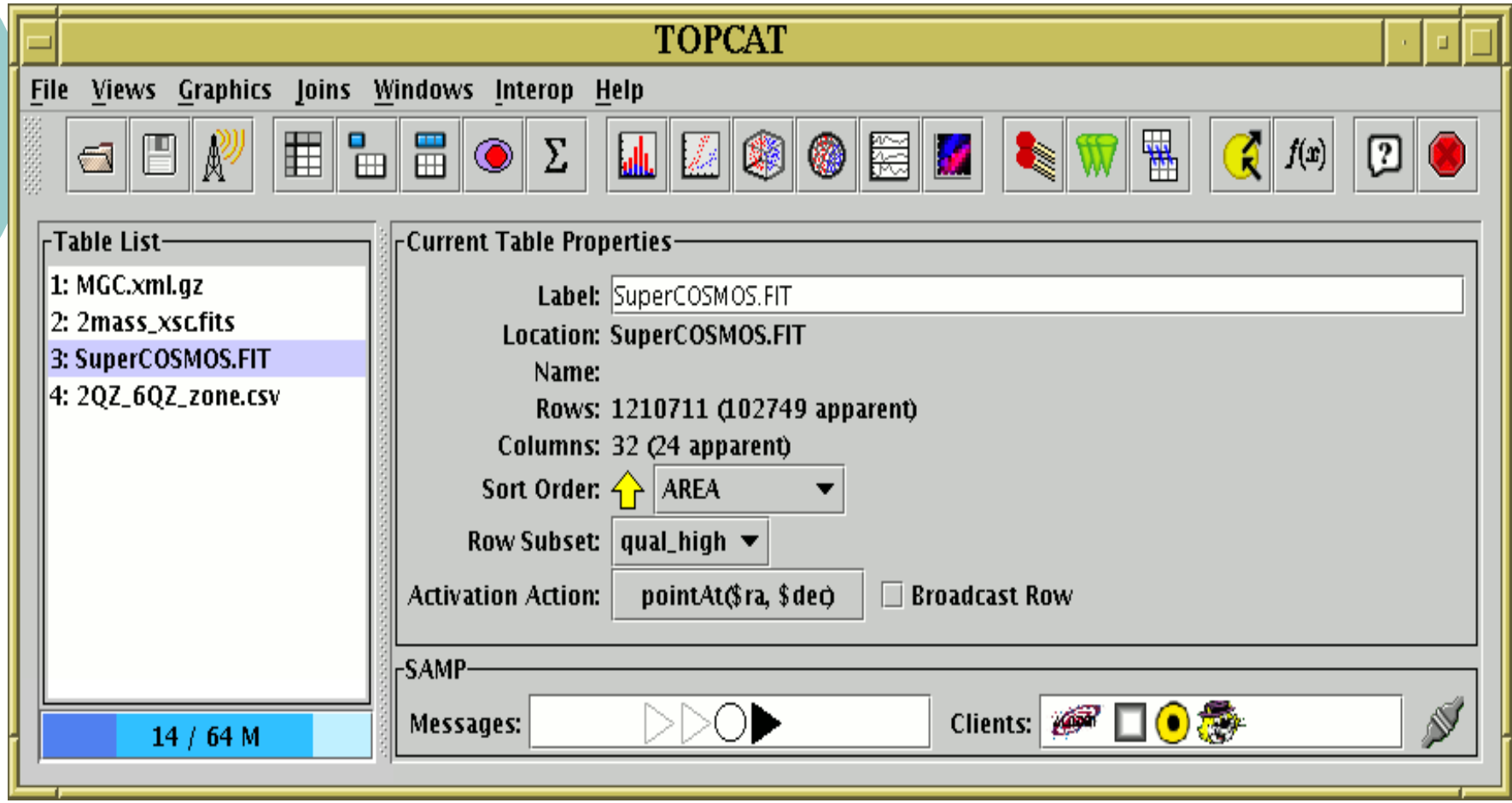
Main Capabilities

- Data access、view、edit
- Data visualization
- Data statistics
- Data cross-matching
- Cone search

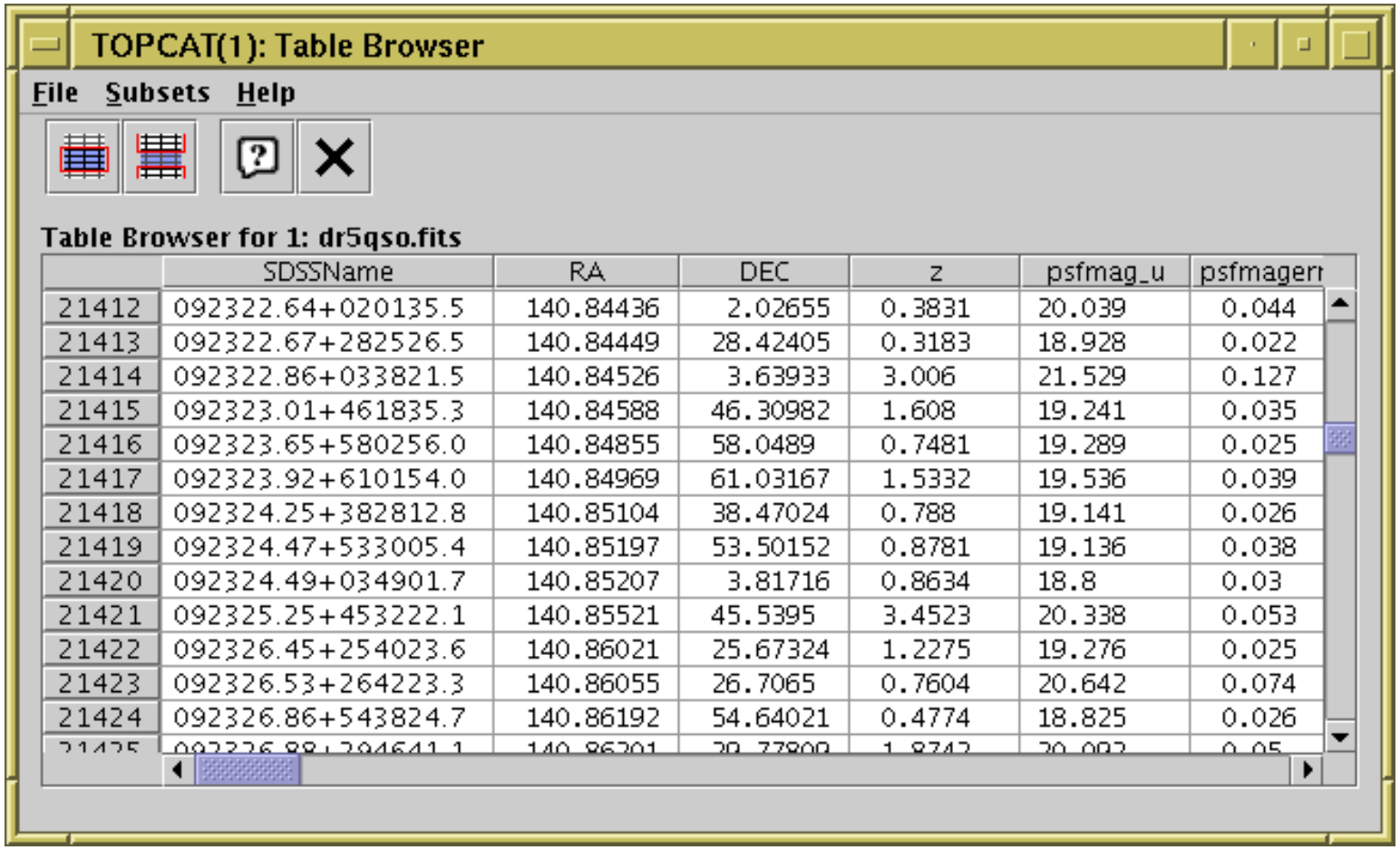
TOPCAT Screenshots

- Control Window
- Data Window
- Parameters Window
- Columns Window
- Subsets Window
- Statistics Window
- Plot Window
- Histogram Window
- 3D Plot Window
- Spherical Polar Plot Window
- Stacked Line Plot Window
- Density Map Window
- Match Window

Control Window

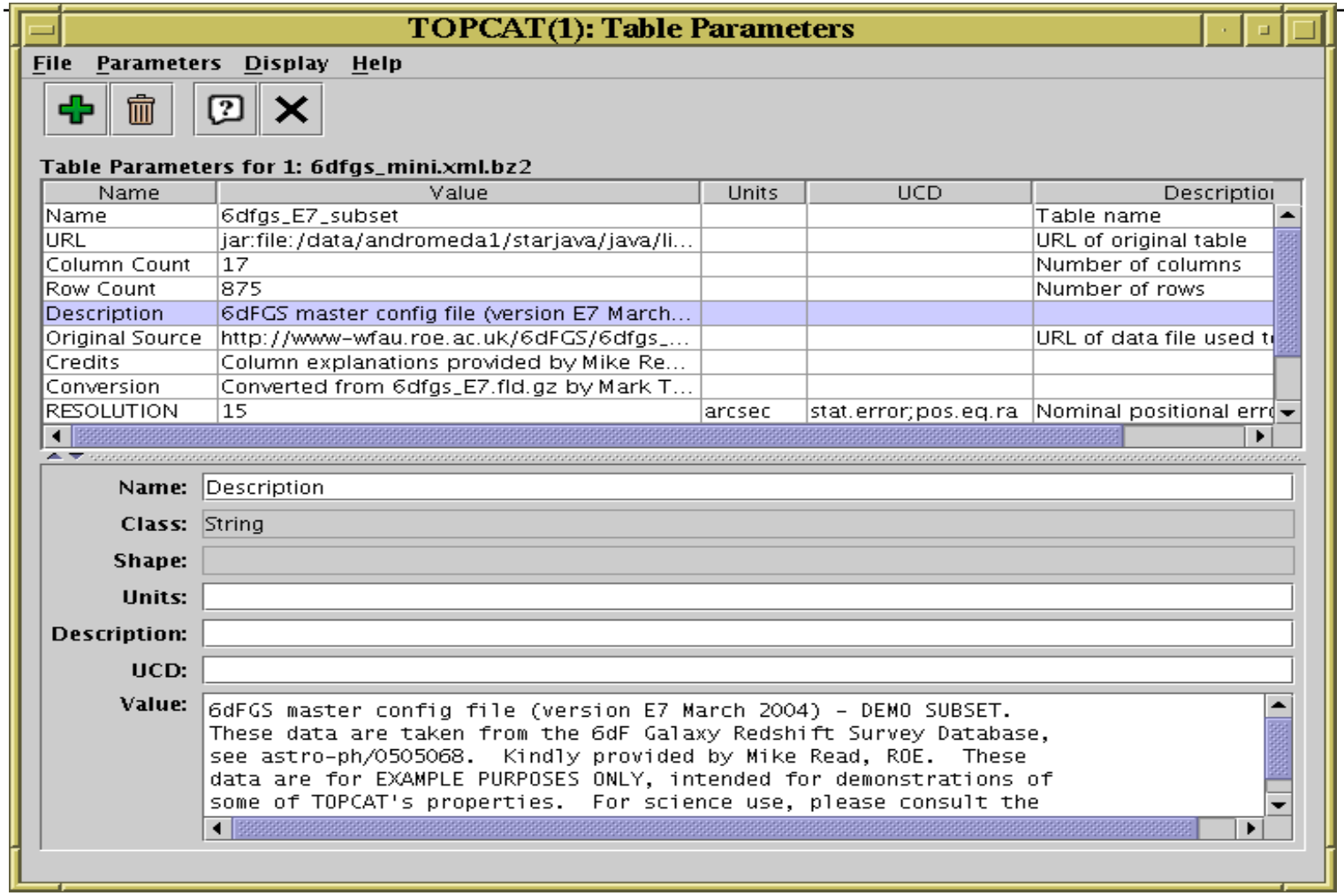


Data Window

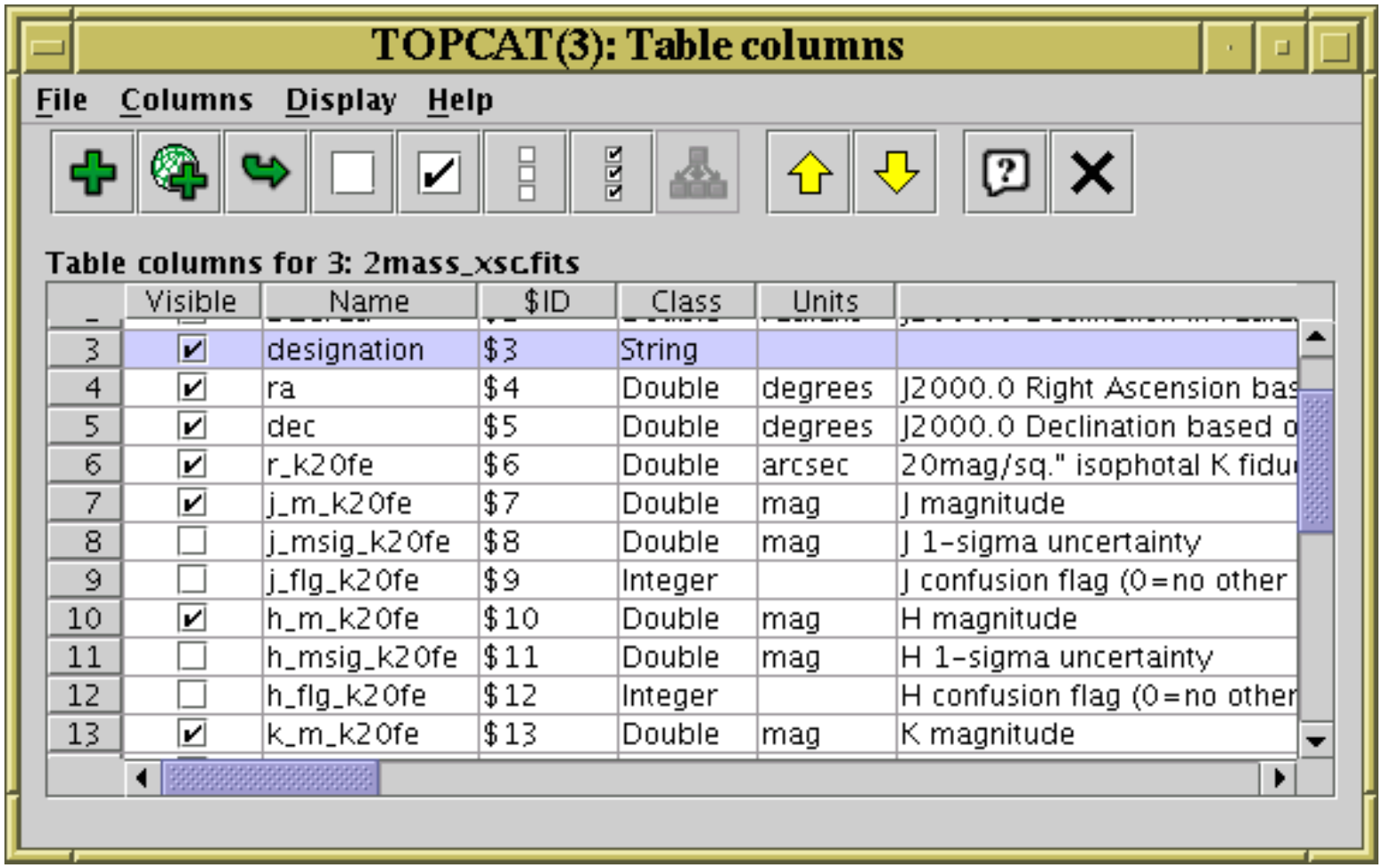


	SDSSName	RA	DEC	z	psfmag_u	psfmagerr
21412	092322.64+020135.5	140.84436	2.02655	0.3831	20.039	0.044
21413	092322.67+282526.5	140.84449	28.42405	0.3183	18.928	0.022
21414	092322.86+033821.5	140.84526	3.63933	3.006	21.529	0.127
21415	092323.01+461835.3	140.84588	46.30982	1.608	19.241	0.035
21416	092323.65+580256.0	140.84855	58.0489	0.7481	19.289	0.025
21417	092323.92+610154.0	140.84969	61.03167	1.5332	19.536	0.039
21418	092324.25+382812.8	140.85104	38.47024	0.788	19.141	0.026
21419	092324.47+533005.4	140.85197	53.50152	0.8781	19.136	0.038
21420	092324.49+034901.7	140.85207	3.81716	0.8634	18.8	0.03
21421	092325.25+453222.1	140.85521	45.5395	3.4523	20.338	0.053
21422	092326.45+254023.6	140.86021	25.67324	1.2275	19.276	0.025
21423	092326.53+264223.3	140.86055	26.7065	0.7604	20.642	0.074
21424	092326.86+543824.7	140.86192	54.64021	0.4774	18.825	0.026
21425	092326.88+284641.1	140.86201	28.77809	1.8742	20.002	0.05

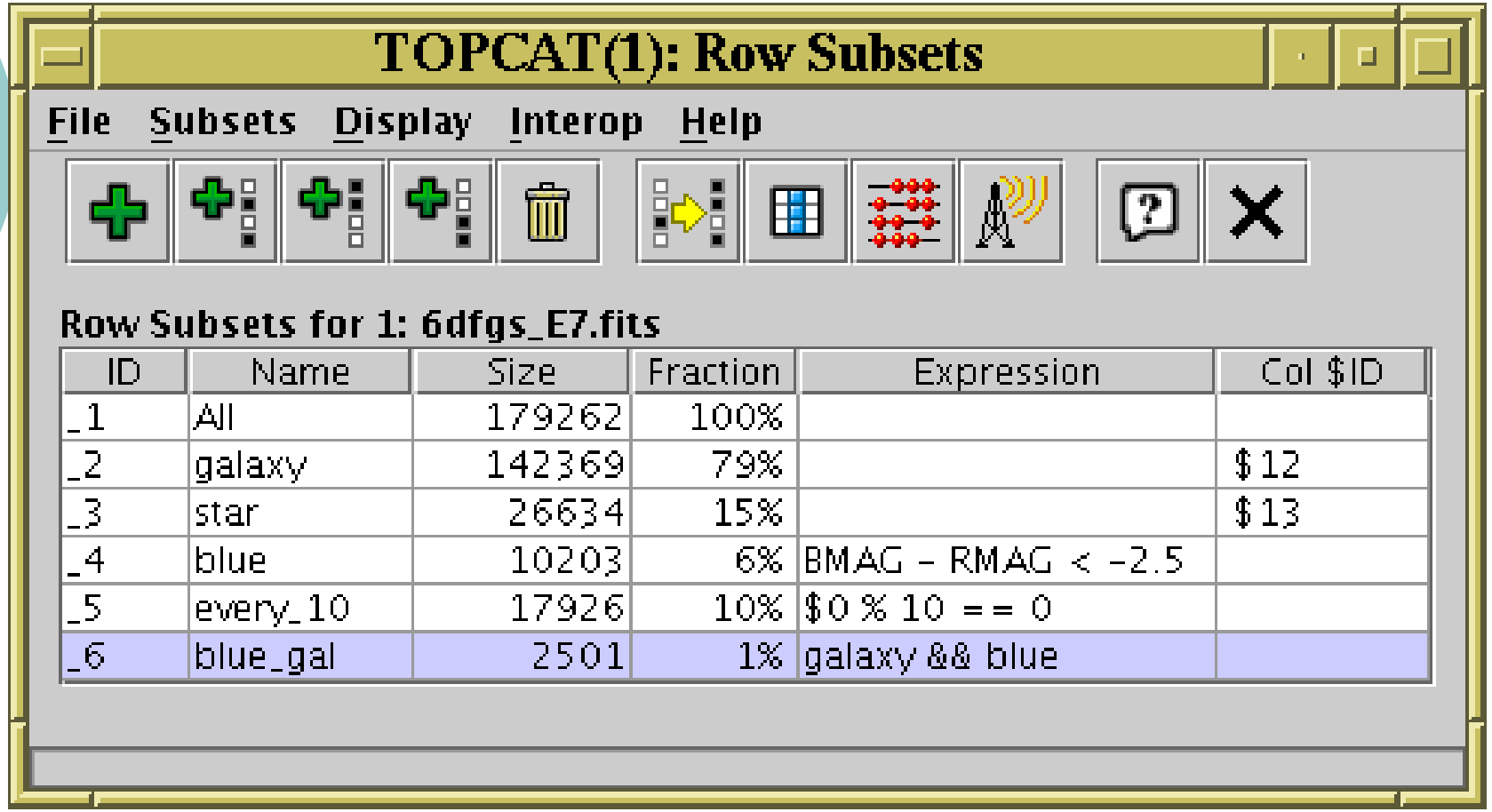
Parameters Window



Columns Window

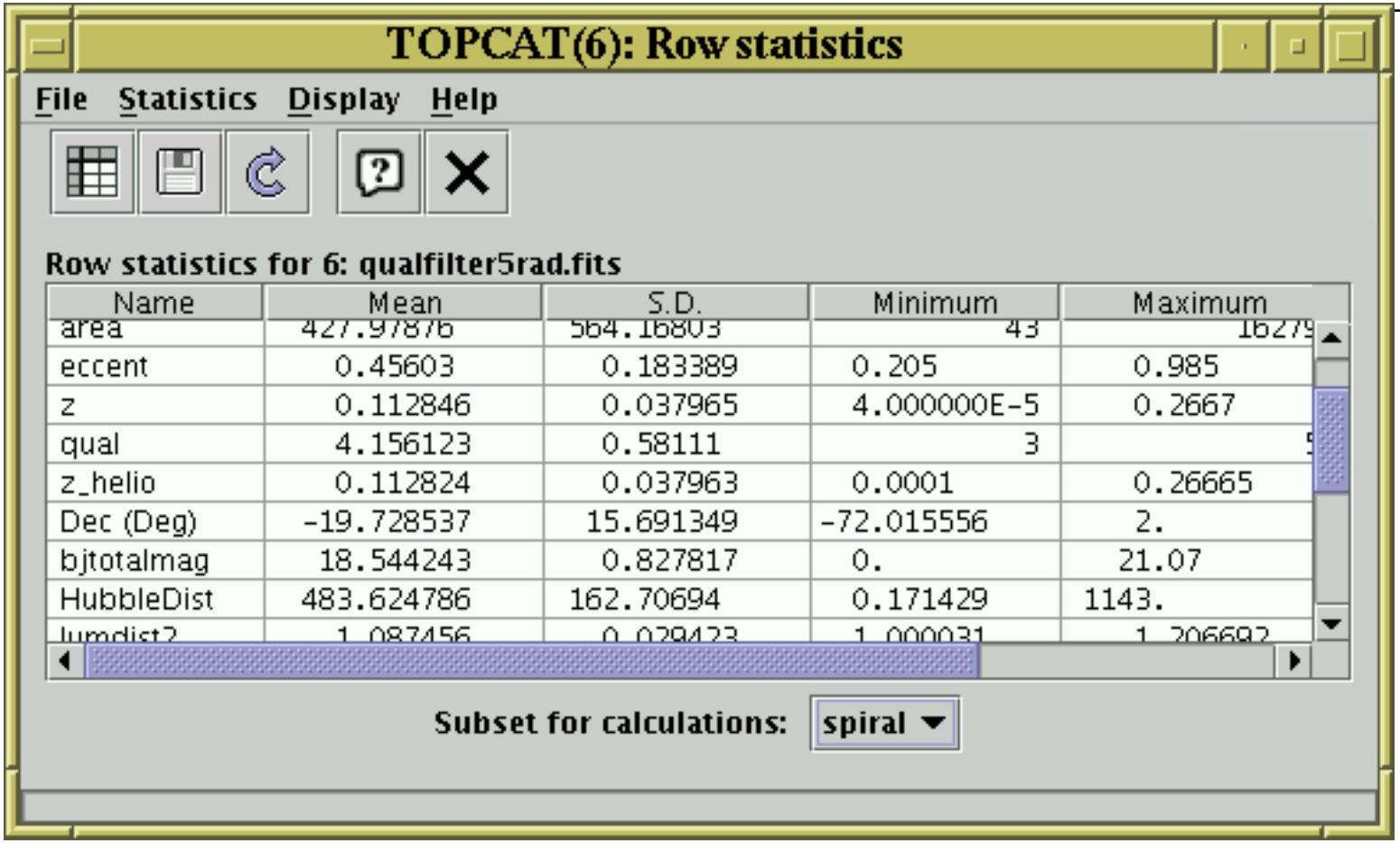


Subsets Window

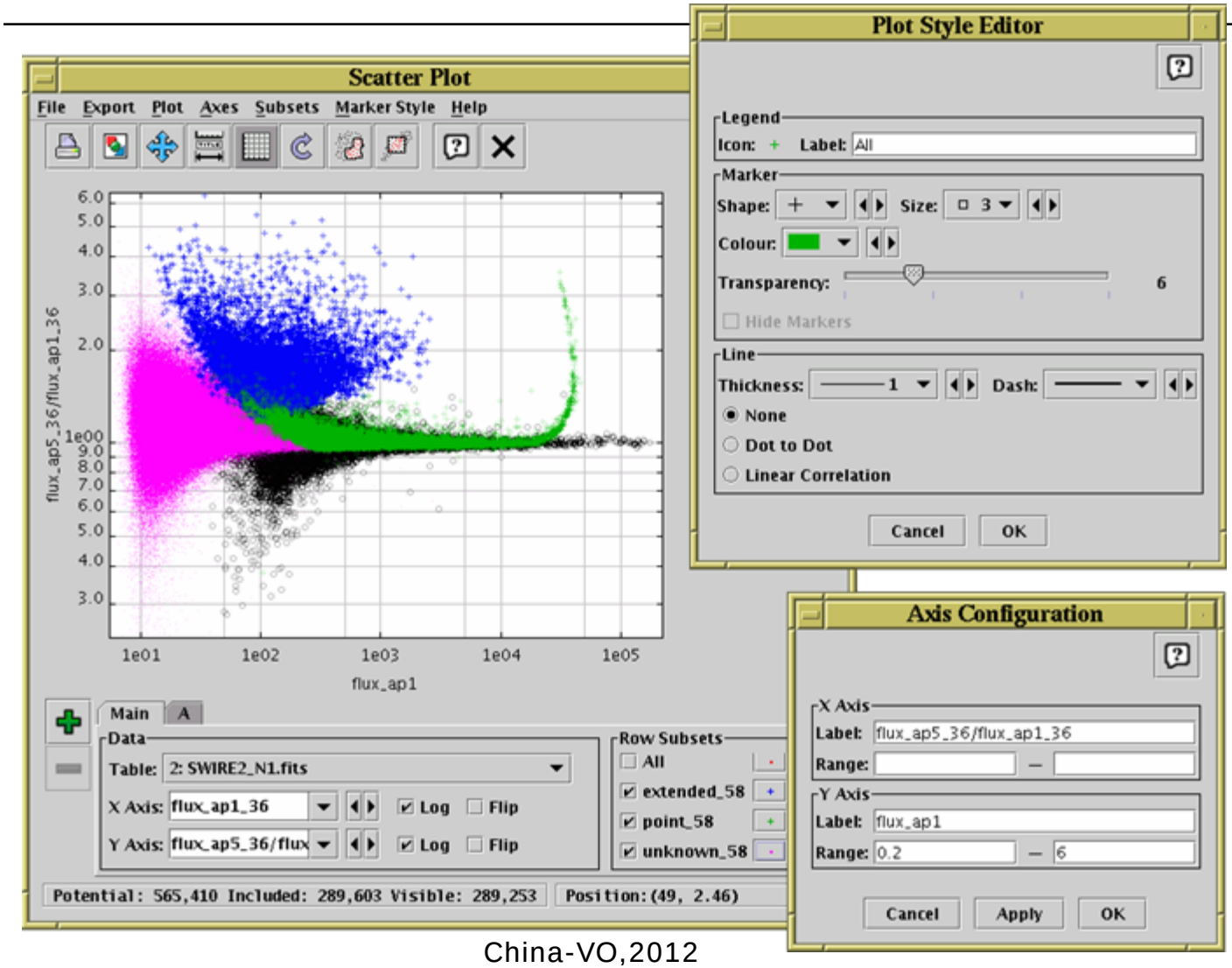


ID	Name	Size	Fraction	Expression	Col $ID
_1	All	179262	100%		
_2	galaxy	142369	79%		$12
_3	star	26634	15%		$13
_4	blue	10203	6%	BMAG - RMAG < -2.5	
_5	every_10	17926	10%	$0 % 10 == 0	
_6	blue_gal	2501	1%	galaxy && blue	

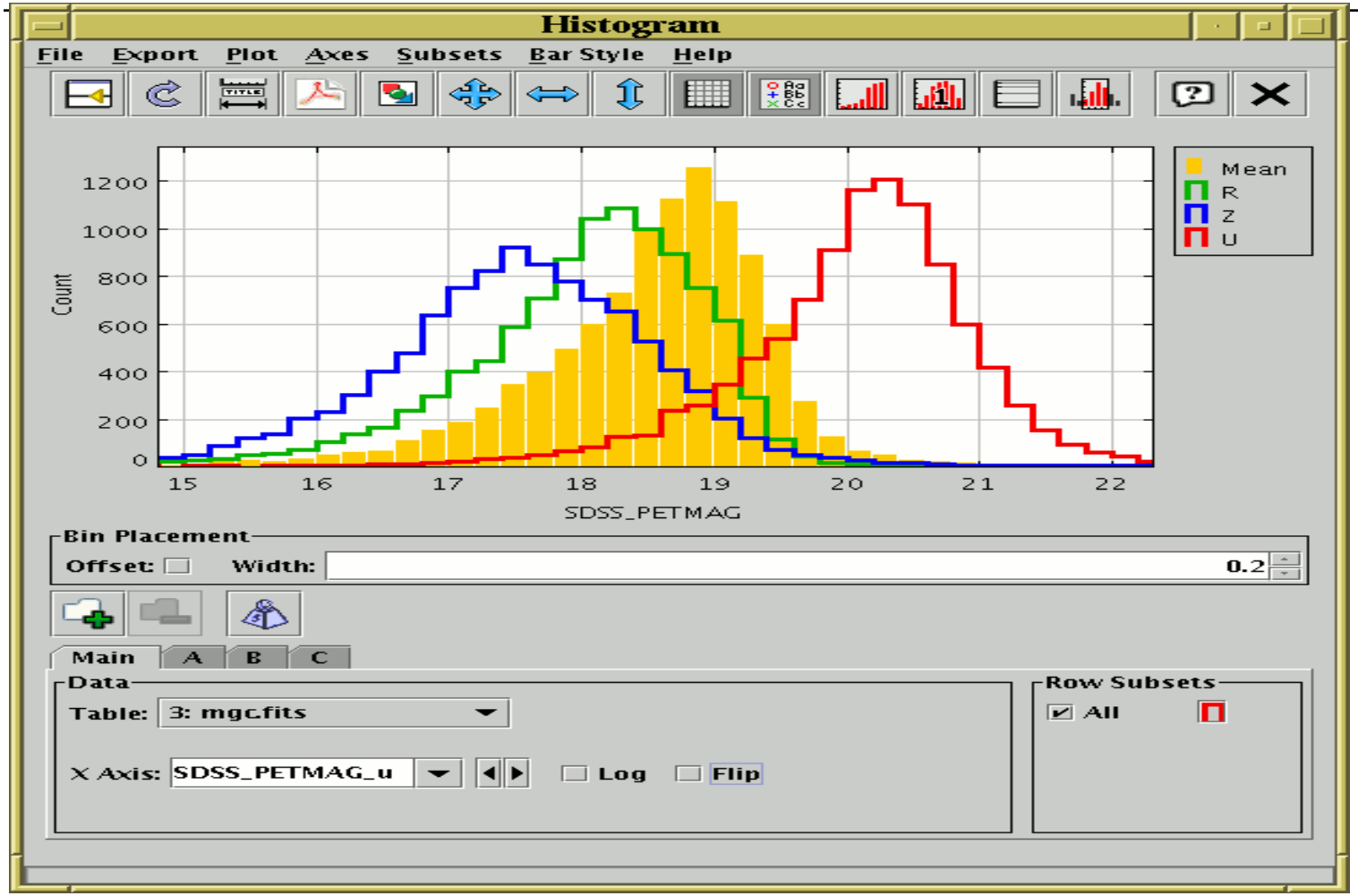
Statistics Window



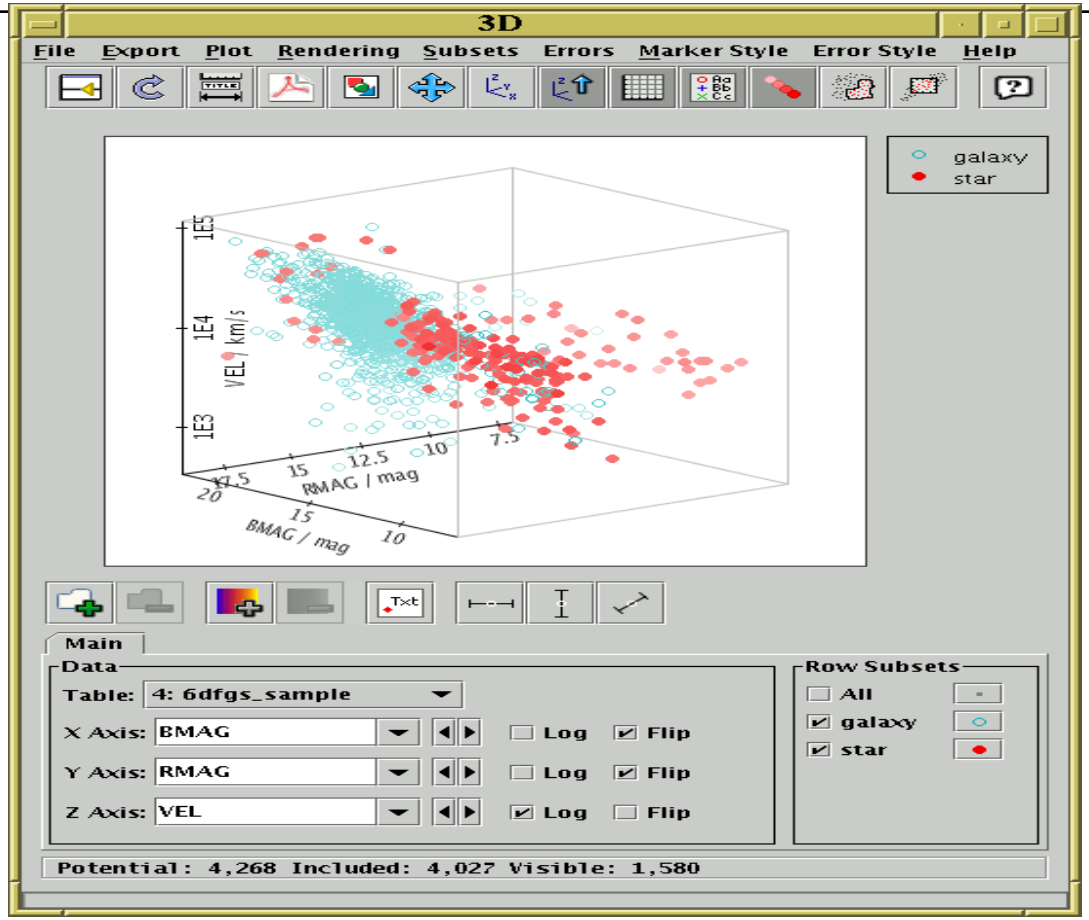
2D Plot Window



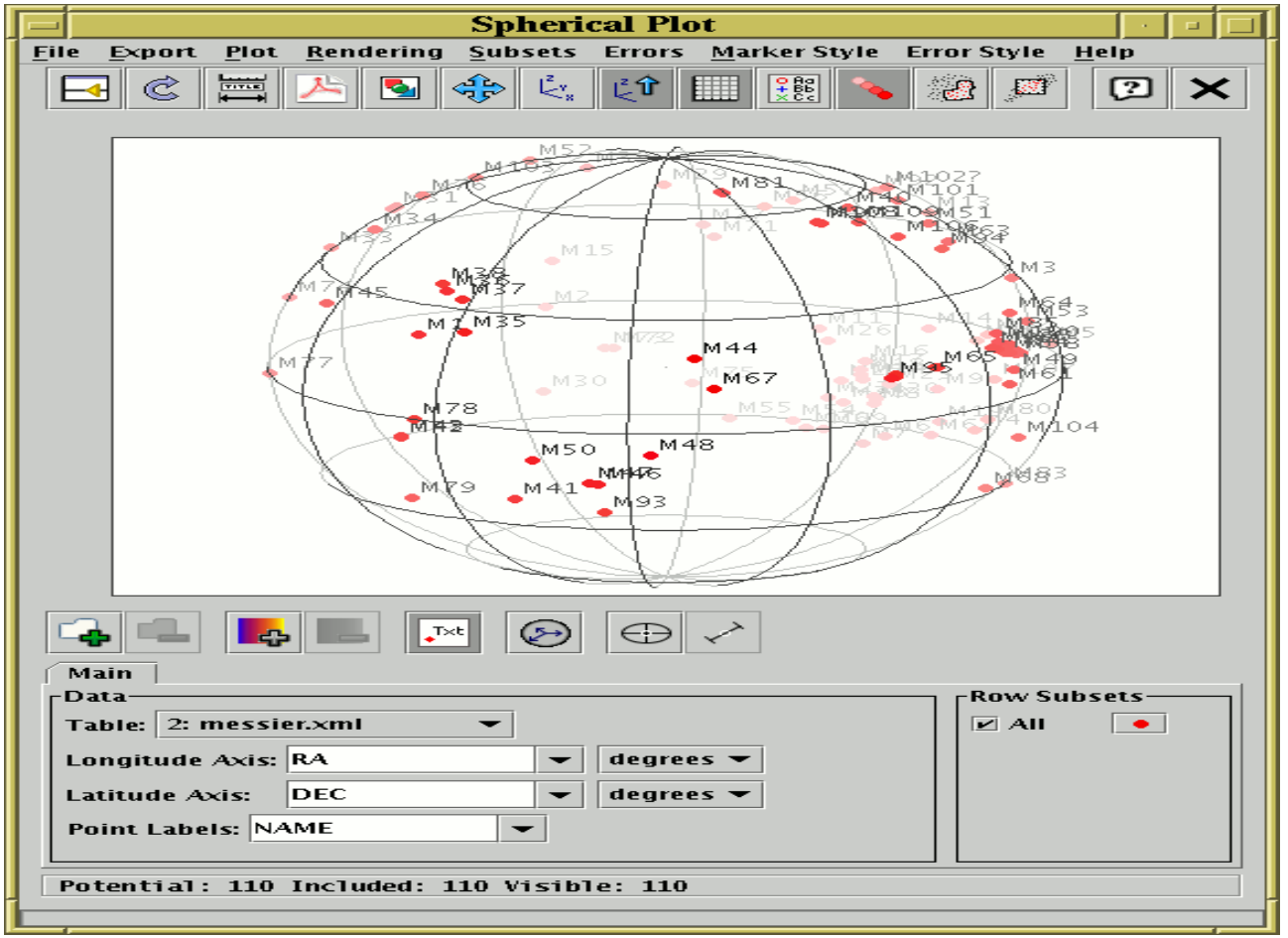
Histogram Window



3D Plot Window

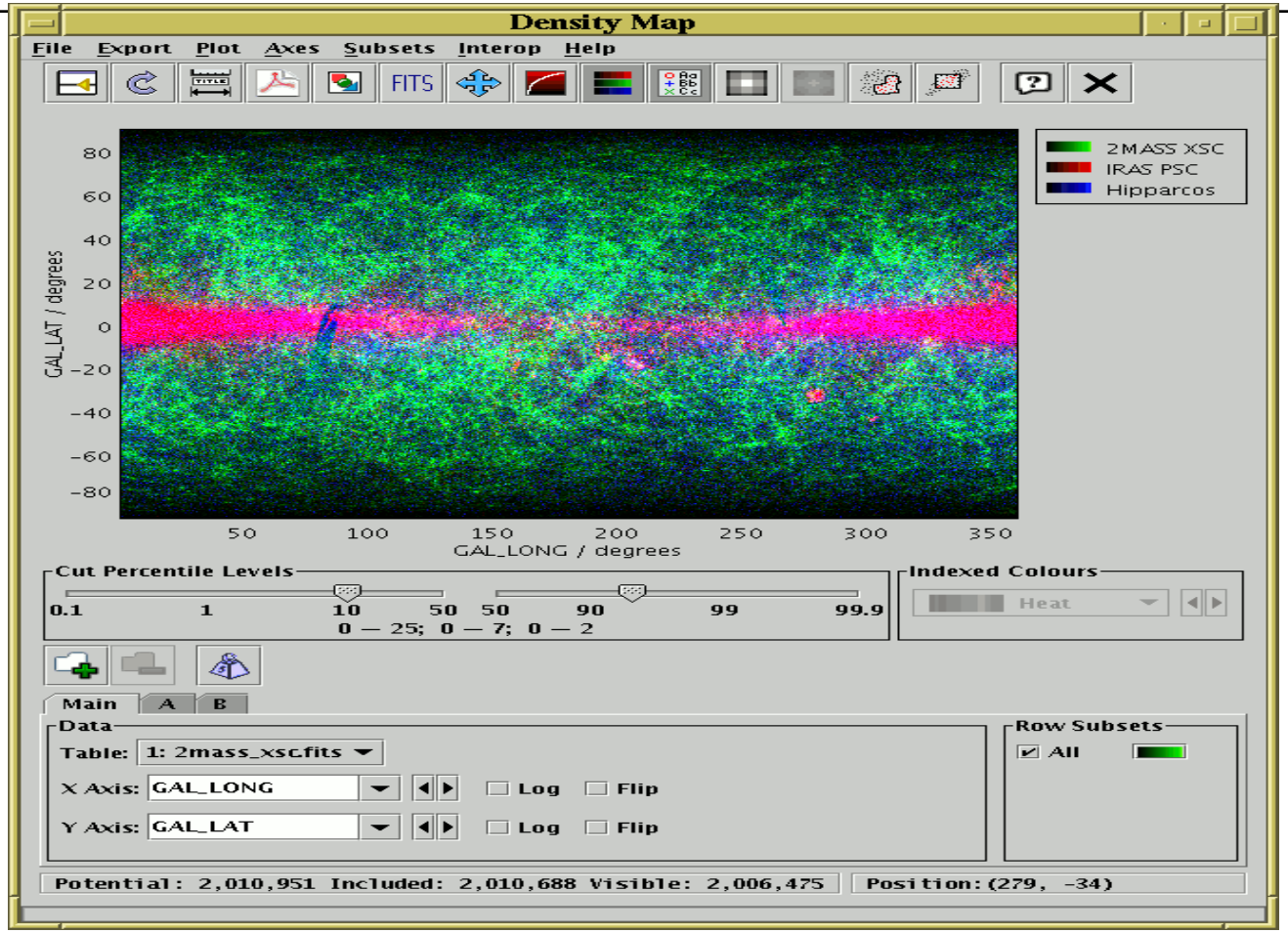


Spherical Polar Plot Window

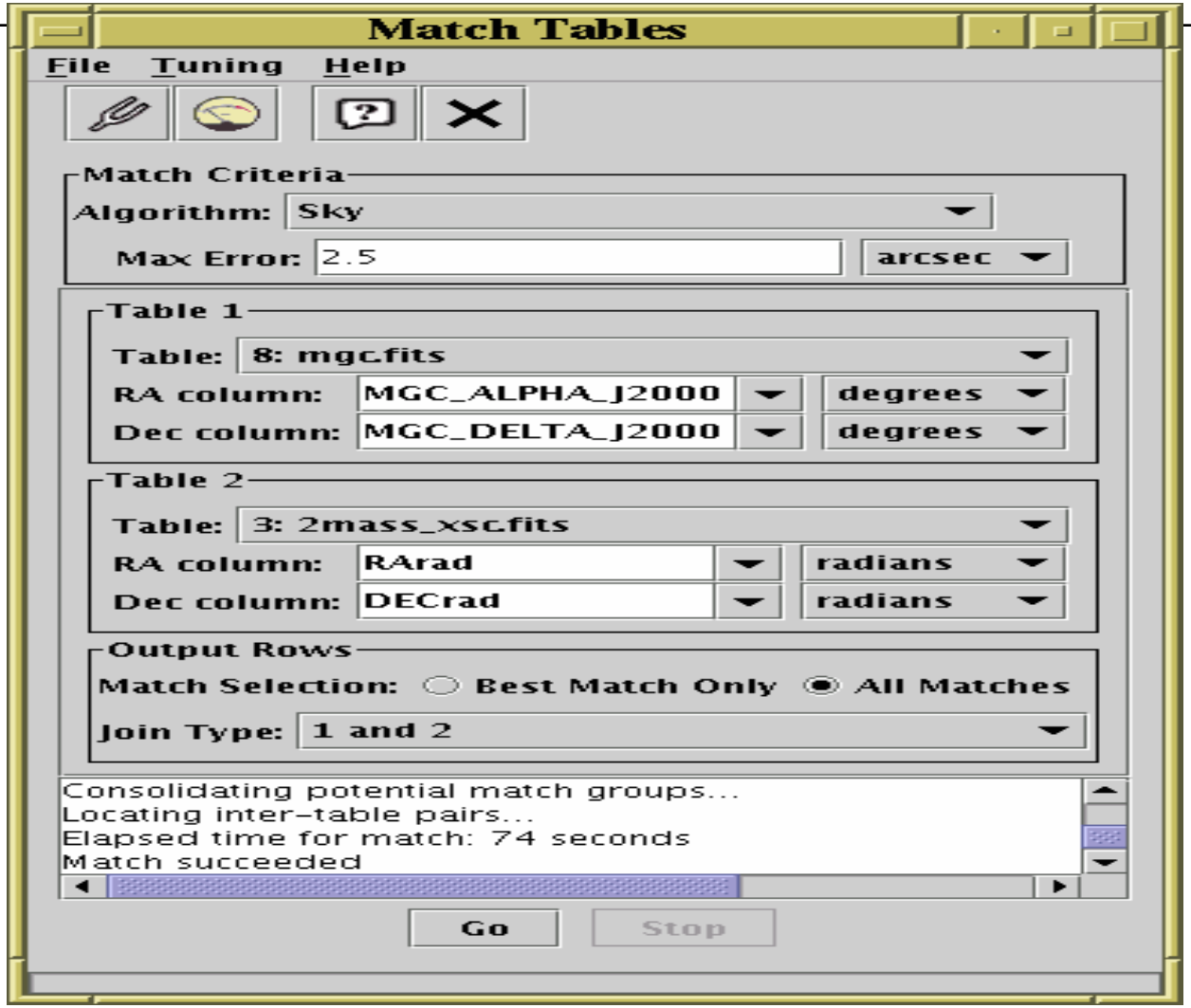


Stacked Line Plot Window

Density Map Window



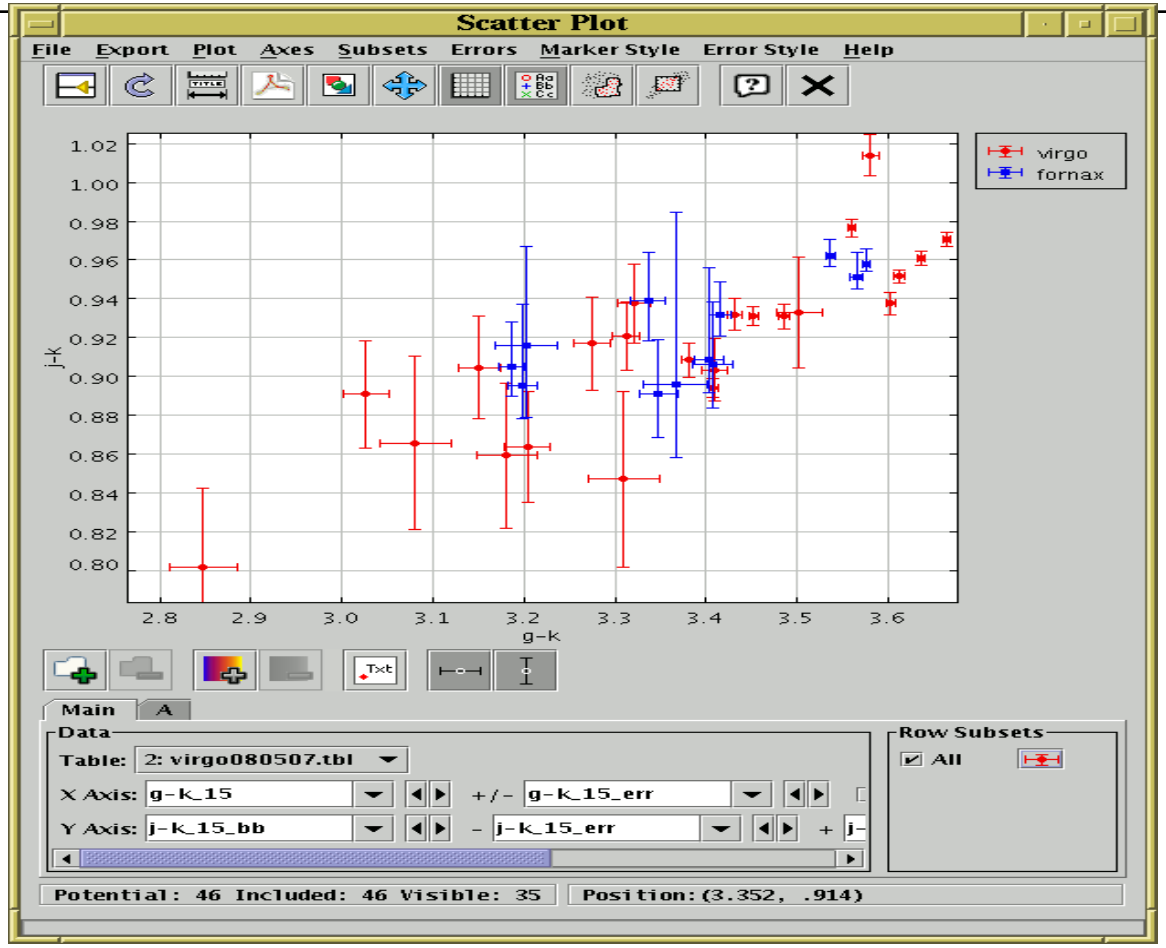
Match Window



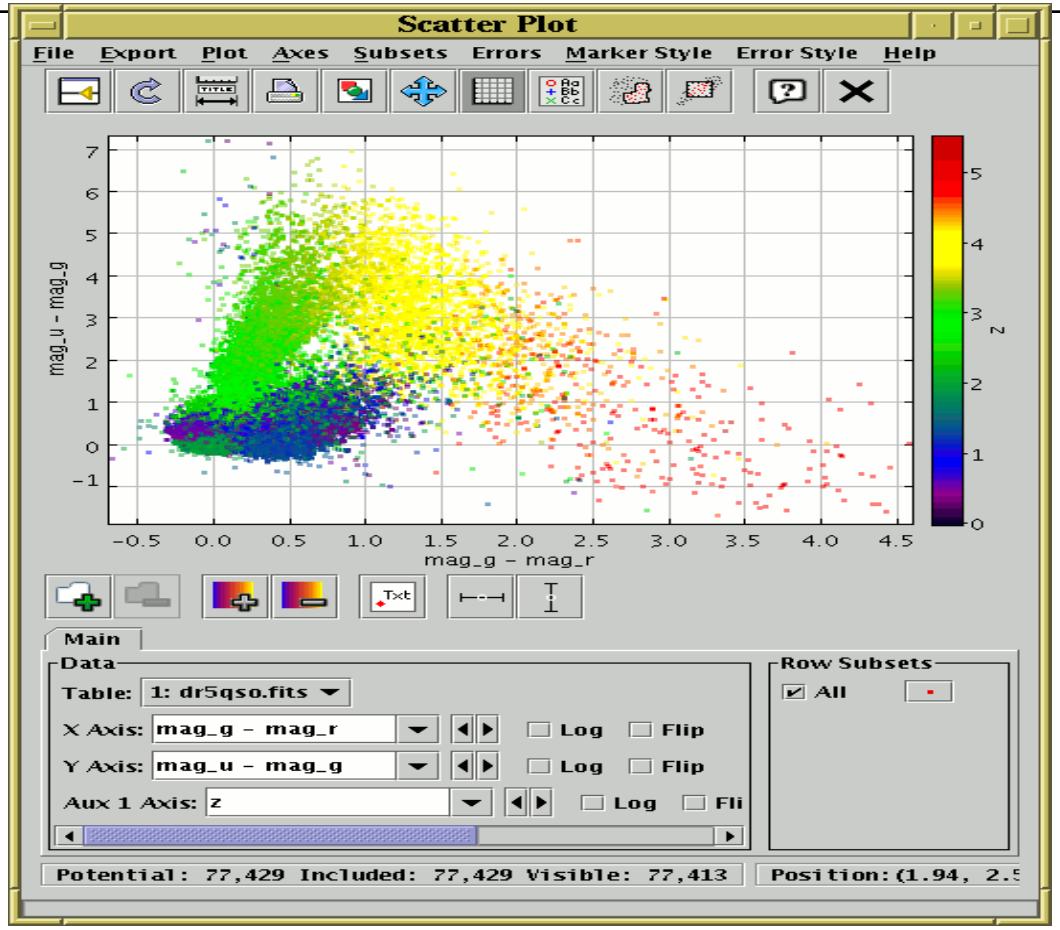
New features in Version 3

- Error Bars
- Auxiliary Axes
- Histogram Weighting

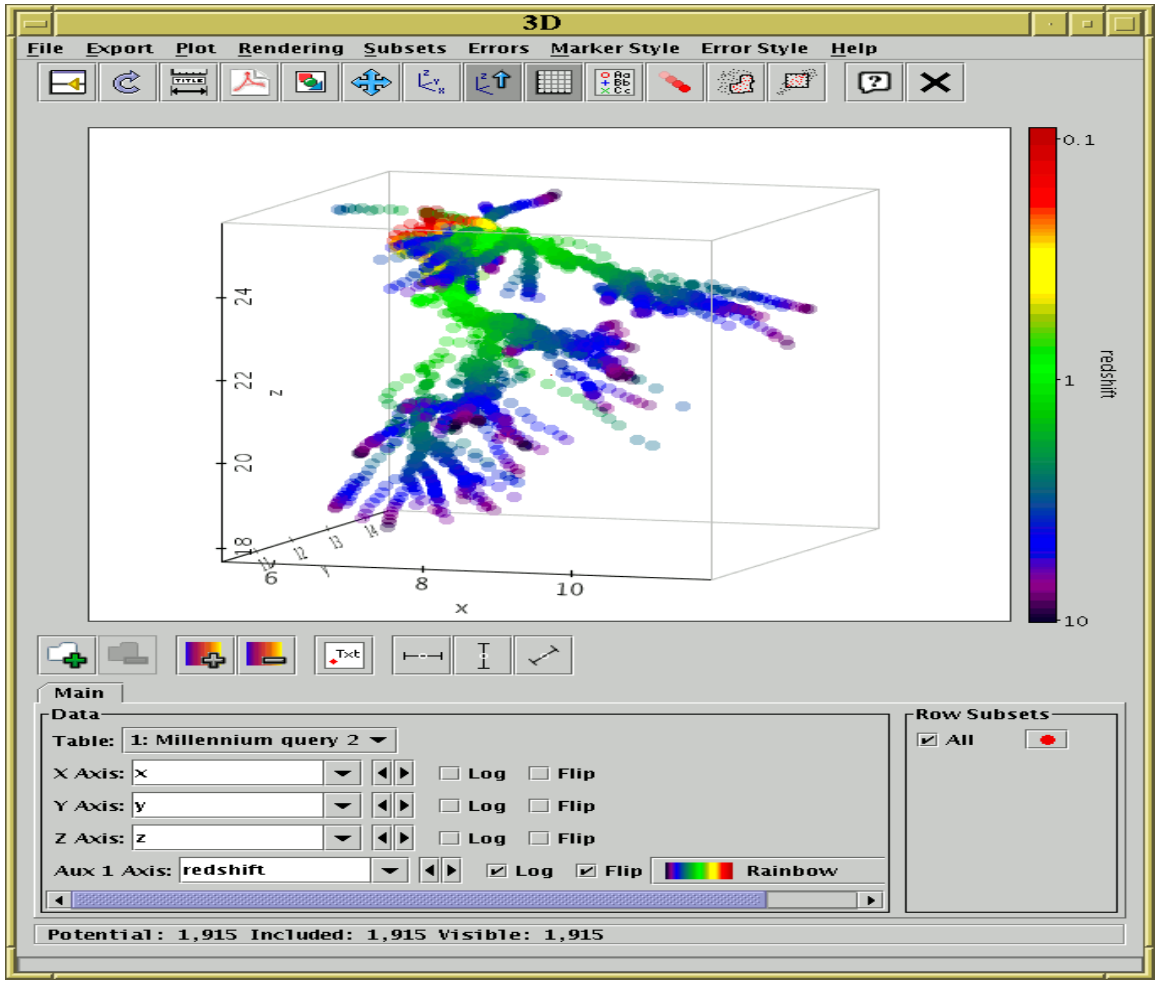
Scatter plot with errors



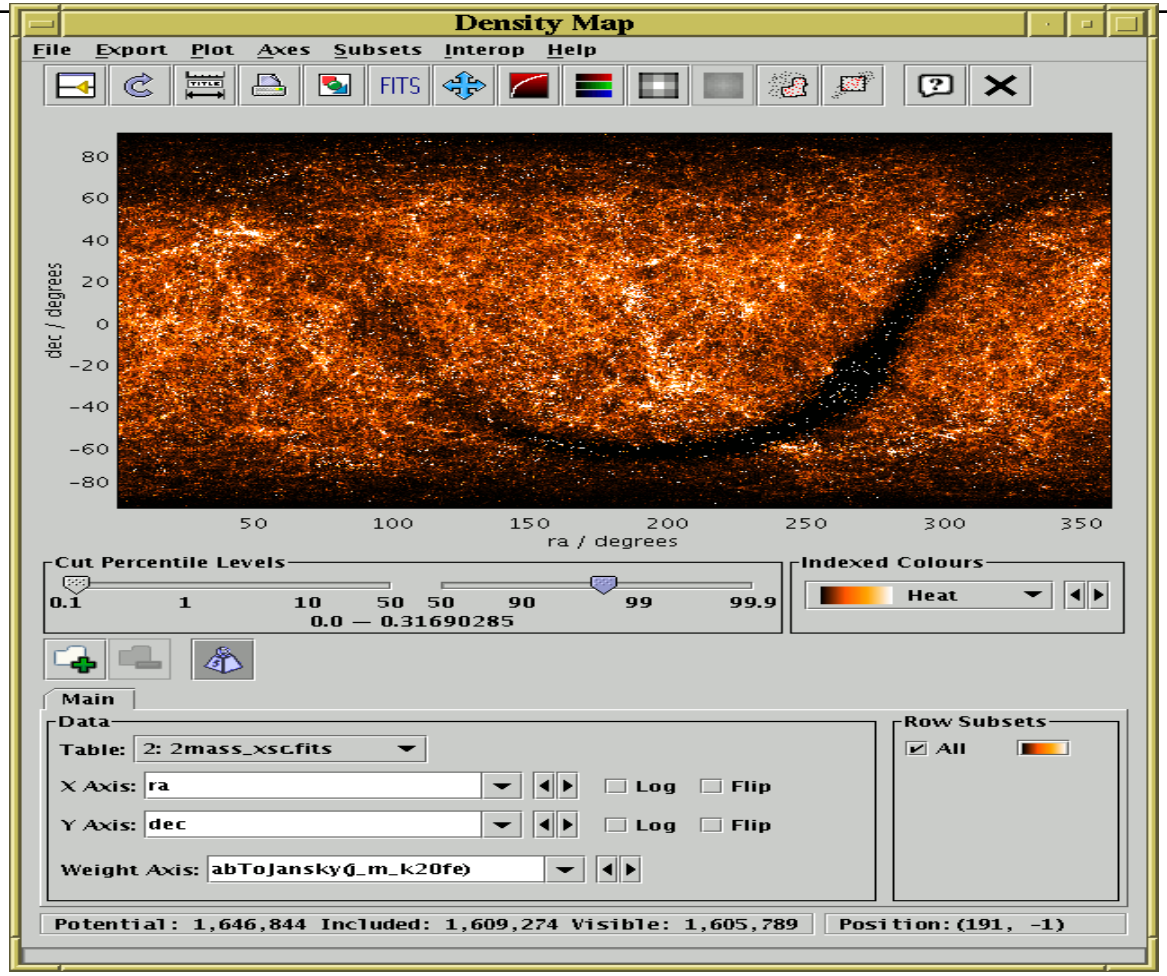
Scatter plot with auxiliary axis



3D plot with auxilliary axis



Density map with weighting



Installation

- You just need to ensure that you have a suitable Java Runtime Environment (JRE).
- Download:http://www.star.bris.ac.uk/~mbt/topcat/
- The most recent public release of TOPCAT is **version 3.9**, released 27 October 2011.

Supported table input formats

- FITS TABLE or BINTABLE (binary table)
- VOTables
- ASCII tables
- Comma-Separated Values
- Results of SQL queries on relational databases
- IPAC format

Supported output formats

- FITS BINTABLE (binary table)
- VOTables
- Plain ASCII text
- Comma-Separated Values
- HTML TABLE element
- LaTeX tabular environment
- New table exported to an SQL-compatible relational database

Application

- demonstration

Thanks