

VOI AstroStat & PyMorph



By,
Santosh Jagade
Virtual Observatory – India

Introduction to AstroStat



- ❧ VO-I service for statistical analysis of astronomical data
- ❧ Uses R, open-source statistical computing environment to implement in statistical test
- ❧ Includes an up-to-date plotting system (ggplot2) with strong community support
- ❧ Equipped to handle data in FITS, VOTable & ASCII formats
- ❧ Provides the TAP & SAMP Web profile to interoperate with other VO services like VizieR
- ❧ Stand-alone tool announced during October -2012
- ❧ AstroStat web interface announced in Mid 2013
- ❧ For more details, see *Astronomy & Computing* 11, 126 (2015)

Features of AstroStat



SELECT TEST CATEGORY

Exploratory

Advanced

Expert

SELECT EXPLORATORY TEST

- Anova
- BoxPlot
- Histogram
- Mean, Standard Deviation
- Pairs Plot
- Pearson, Kendall and Spearman correlation
- Probability Plot
- Quantile Quantile Plot
- Sample Generation
- Simple Linear Regression Analysis
- Weighted Mean
- XY Plot

INPUT DATA

Import

Browse...

No file selected.

Upload



Close

Close All

INTRODUCTION

AstroStat provides various statistical routines for use on datasets which can be in VOTable, FITS, or ASCII format.

You can download the dataset from a server or select from a local directory.

AstroStat uses an open source environment for statistical computing called *R*.

To use AstroStat,

- Select test and data

Features of AstroStat



SELECT TEST CATEGORY

Exploratory

Advanced

Expert

SELECT EXPLORATORY TEST

- Anova
- BoxPlot
- Histogram
- Mean, Standard Deviation
- Pairs Plot
- Pearson, Kendall and Spearman correlation
- Probability Plot
- Quantile Quantile Plot
- Sample Generation
- Simple Linear Regression Analysis
- Weighted Mean
- XY Plot

INPUT DATA

Import

Browse...

No file selected.

Upload

Close

Close All



Upload Complete

Introduction

AstroStat provides various statistical routines for use on datasets which can be in VOTable, FITS, or ASCII format.

You can download the dataset from a server or select from a local directory.

AstroStat uses an open source environment for statistical computing called *R*.

To use AstroStat,

- Select test and data

Features of AstroStat (Cont.)

AstroStat
Statistical Analysis for the Virtual Observatory

TAP
 TXT
 XML
 +
 V
 ?
 A
 🟡
 ✉️

SELECT TEST CATEGORY

Exploratory | **Advanced** | Expert

SELECT EXPLORATORY TEST

- Anova
- BoxPlot
- Histogram
- Mean, Standard Deviation
- Pairs Plot
- Pearson, Kendall and Spearman correlation
- Probability Plot
- Quantile Quantile Plot
- Sample Generation
- Simple Linear Regression Analysis**
- Weighted Mean
- XY Plot

INPUT DATA

jor_r.csv

[Data Summary](#)

Help

This is a statistical procedure to fit a straight line model to a pair of variables. Given a dependent/response variable y , which has an error sigma and an independent/explanatory variable x assumed to be known exactly, the aim of the procedure is to determine the best fit values of parameters m (slope) and c (intercept). Root mean squared value of the scatter of points from the best fit line, correlation coefficient r and its significance are also determined.

It is possible to input the two variables from separate data

Simple Linear Regression Analysis for jor_r.csv

Input	File Name	Columns	X-Val	log10(x)	loge(x)	exp(x)
X	jor_r.csv	lgrekpc	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
X Error	jor_r.csv	None	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Y	jor_r.csv	lgle	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Y Error	jor_r.csv	None	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Weight	jor_r.csv	None	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Covariance	jor_r.csv	None	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Features of AstroStat (Cont.)

AstroStat

Statistical Analysis for the Virtual Observatory

📄 📁 🗑️ 📄 📄 📄 📄 ?

Simple Linear Regression Analysis Output For jor_r.csv

Input details:

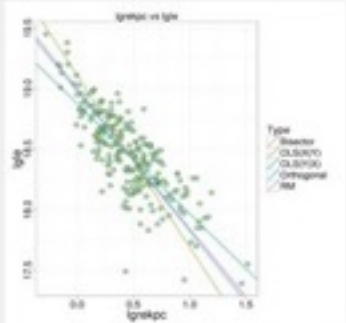
X	Y	Err(X)	Err(Y)	Covariance	Weights	Sample Size
lgrekcpc	lgle	NA	NA	NA	NA	244

Correlation between lgrekcpc and lgle :

Coefficient (r)	t-statistic	p-value
-7.997e-01	-2.072e+01	1.522e-55

Ordinary Least Squares Regression:

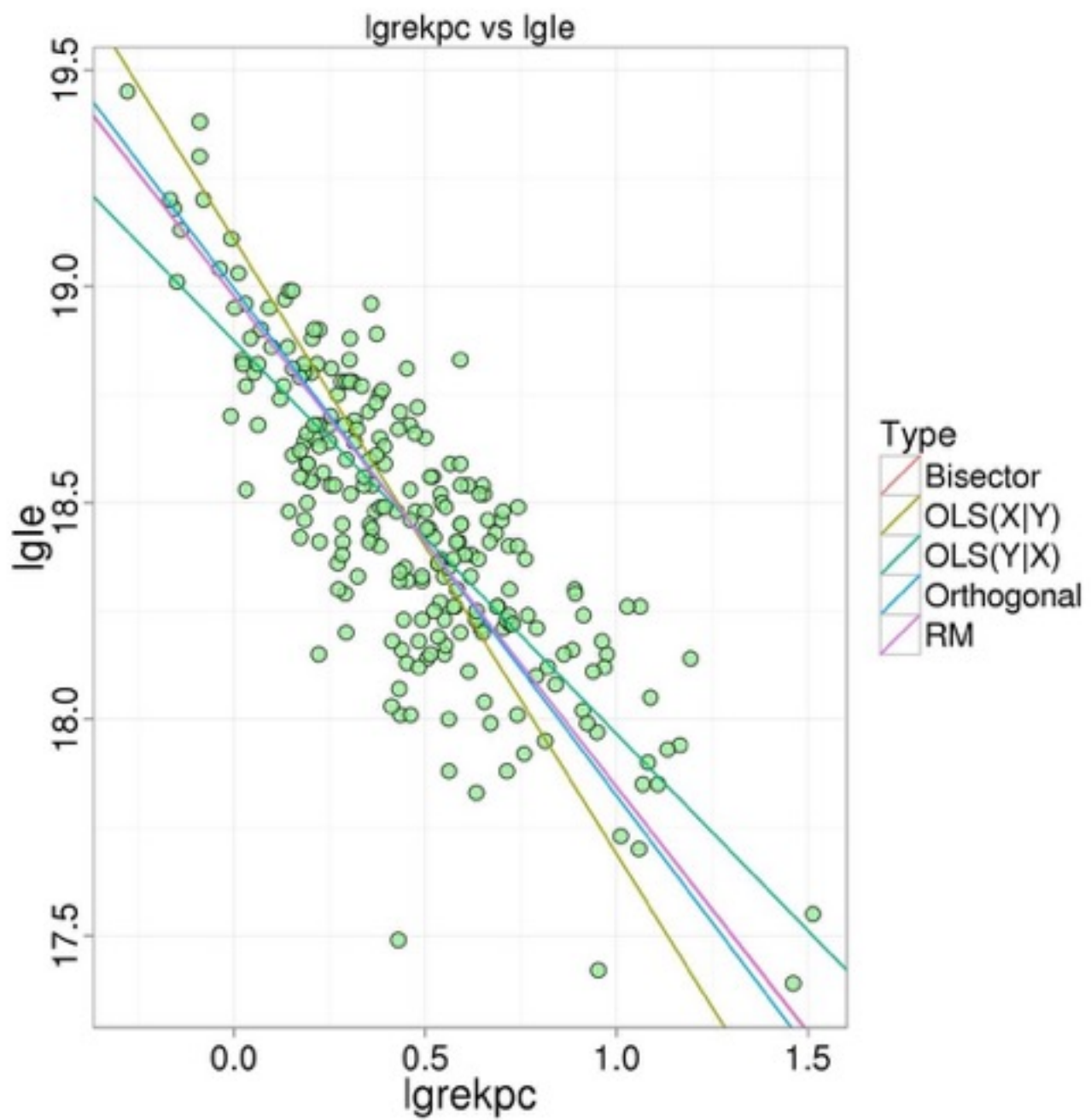
Type	Slope	Err(Slope)	Intercept	Err(Intercept)
OLS(Y X)	-9.084e-01	4.117e-02	1.887e+01	2.292e-02
OLS(X Y)	-1.420e+00	8.421e-02	1.911e+01	3.438e-02
Bisector	-1.132e+00	4.457e-02	1.898e+01	1.996e-02
Orthogonal	-1.172e+00	6.118e-02	1.900e+01	3.617e-02
RM	-1.136e+00	4.609e-02	1.898e+01	2.041e-02



The scatter plot displays the relationship between lgrekcpc (x-axis, 0.0 to 1.5) and lgle (y-axis, 17.5 to 19.5). It includes data points and five regression lines: Bisector (blue), OLS(Y|X) (green), OLS(X|Y) (red), Orthogonal (purple), and RM (yellow). The legend indicates the line types for each method.

H

nt.)



Features of AstroStat (Cont.)

The screenshot displays the AstroStat web interface. At the top, there is a header with the AstroStat logo and the tagline 'Statistical Analysis for the Virtual Observatory'. Below the header is a navigation bar with various icons. The main content area is divided into several sections:

- SELECT TEST CATEGORY:** This section has three tabs: 'Exploratory', 'Advanced', and 'Expert'. Under the 'Exploratory' tab, there is a 'SELECT EXPLORATORY TEST' section with a list of radio buttons for different statistical tests. The 'Pairs Plot' option is selected.
- INPUT DATA:** This section contains a text input field with the URL 'http://vo.iucaa.ernet.in/tmp/HDF_Galaxies.x', an 'Import' button, a 'Browse...' button, a text input field with 'jor_r.csv', an 'Upload' button, a dropdown menu with 'jor_r.csv', 'Close', and 'Close All' buttons, and a 'Data Summary' link.
- Help:** This section has a 'Help' button and a text area containing information about the Pairs Plot. The text area is currently displaying the 'Help' button's content.

Below these sections is a 'Pairs Plot for jor_r.csv' section. It features a 'Columnwise Transformations:' table and a 'Plot Format' section.

Columns	<input type="checkbox"/> X-Val	<input type="checkbox"/> log10(x)	<input type="checkbox"/> loge(x)	<input type="checkbox"/> exp(x)
Igrekpc	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Igsig	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Igle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Plot Format: PostScript JPEG PDF PNG

Run Test

Features of AstroStat (Cont.)

The screenshot displays the AstroStat web interface. At the top, the header reads "AstroStat Statistical Analysis for the Virtual Observatory". Below the header is a navigation bar with icons for TAP, XML, and other data formats. The main interface is divided into several sections:

- SELECT TEST CATEGORY:** Includes tabs for "Exploratory", "Advanced", and "Expert". Under "Exploratory", there are radio buttons for various statistical tests: Anova, BoxPlot, Histogram, Mean, Standard Deviation, **Pairs Plot** (selected), Pearson, Kendall and Spearman, Probability Plot, Quantile Quantile Plot, Sample Generation, Simple Linear Regression, Weighted Mean, and XY Plot.
- INPUT DATA:** Contains a text input field with a URL, "Import" and "Upload" buttons, and a "Data Summary" link.
- Create New Columns Dialog:** A central modal window with the following fields:
 - Enter Column Name: MyColumn
 - Enter Expression: $SB2 * SB3$
 - Enter Unit: (empty)
 - Append to file: jor_r.csvIt also lists "Uploaded Files":
 - A: HDF_Galaxies.xml
 - B: jor_r.csvBelow the files is a table with columns "Column Id", "Column Name", and "Expression":

Column Id	Column Name	Expression
1	Igrekpc	Original
2	Igsig	Original
3	Igle	Original

An "Operator List" is also present, containing mathematical operators like +, -, *, /, log, ln, sqrt, pow, dexp, exp, cos, acos, sin, asin, tan, atan, torad, todeg, sinh, cosh, tanh, asinh, acosh, atanh.
- Columnwise Transformations:** A table with columns "Columns", "X-Val", and "log10".

Columns	X-Val	log10
Igrekpc	<input type="checkbox"/>	<input type="checkbox"/>
Igsig	<input type="checkbox"/>	<input type="checkbox"/>
Igle	<input type="checkbox"/>	<input type="checkbox"/>

Features of AstroStat (Cont.)

AstroStat
Statistical Analysis for the Virtual Observatory

SELECT TEST CATEGORY: Exploratory, Advanced, Expert

SELECT EXPLORATORY TEST:

- Anova
- BoxPlot
- Histogram
- Mean, Standard Deviation
- Pairs Plot
- Pearson, Kendall and Spearman
- Probability Plot
- Quantile Quantile Plot
- Sample Generation
- Simple Linear Regression Analysis
- Weighted Mean
- XY Plot

INPUT DATA: [Data Summary](#)

Create New Columns

Enter Column Name:

Enter Expression:

Enter Unit:

Append to file:

Uploaded Files

- A: HDF_Galaxies.xml
- B: jor_r.csv

Column Id	Column Name	Expression
1	Igrekpc	Original
2	Igsig	Original
3	Igle	Original
4	MyColumn	\$B2*\$B3

Operator List

+	-	*
/	log	ln
sqrt	pow	dexp
exp	cos	acos
sin	asin	tan
atan	torad	todeg
sinh	cosh	tanh
asinh	acosh	atanh

Columnwise Transformations: X-Val log10

Columns	<input type="checkbox"/> X-Val	<input type="checkbox"/> log10
Igrekpc	<input type="checkbox"/>	<input type="checkbox"/>
Igsig	<input type="checkbox"/>	<input type="checkbox"/>
Igle	<input type="checkbox"/>	<input type="checkbox"/>

PDF PNG

Features of AstroStat (Cont.)

The screenshot displays the AstroStat web interface. At the top, the header reads "AstroStat Statistical Analysis for the Virtual Observatory". Below the header is a navigation bar with icons for TAP, TEXT, XML, a plus sign, a 'V' logo, a question mark, a 'A' logo, a yellow smiley face, and an envelope icon. The main content area is divided into several panels:

- SELECT TEST CATEGORY:** This panel has three tabs: "Exploratory", "Advanced", and "Expert". Under the "Exploratory" tab, there is a section titled "SELECT EXPLORATORY TEST" with a list of radio button options: Anova, BoxPlot, Histogram, Mean, Standard Deviation, Pairs Plot (selected), Pearson, Kendall and Spearman correlation, Probability Plot, Quantile Quantile Plot, Sample Generation, Simple Linear Regression Analysis, Weighted Mean, and XY Plot.
- INPUT DATA:** This panel contains a text input field with the URL "http://vo.iucaa.ernet.in/tmp/HDF_Galaxies.x", an "Import" button, a "Browse_" button, a dropdown menu showing "jor_r.csv", a "Close" button, a "Close All" button, an "Upload" button, and a "Data Summary" link.
- Help:** This panel has a "Help" button and a scrollable text area. The text reads: "This is a graphical representation of a matrix of scatter plots providing some insight into the relationship between the selected variables. Following information is provided by the plot matrix -". Below this, there are three numbered points: "1: On the diagonal, density curves of each variable are shown", "2: Below the diagonal are scatter plots for pairs of variables", and "3: Above the diagonal, correlation between every pair of variables is shown".
- Pairs Plot for jor_r.csv:** This panel is titled "Columnwise Transformations:" and contains a table with columns for "Columns", "X-Val", "log10(x)", "loge(x)", and "exp(x)". The rows are "Igrekpc", "Igsig", "Igle", and "MyColumn". To the right of the table is a "Plot Format" section with radio buttons for "PostScript", "JPEG" (selected), "PDF", and "PNG", and a "Run Test" button.

Features of AstroStat (Cont.)

AstroStat
Statistical Analysis for the Virtual Observatory

SELECT TEST CATEGORY: Exploratory, Advanced, Expert

SELECT EXPLORATORY TEST:

- Anova
- BoxPlot
- Histogram
- Mean, Standard Deviation
- Pairs Plot
- Pearson, Kendall and Spearman
- Probability Plot
- Quantile Quantile Plot
- Sample Generation
- Simple Linear Regression Analysis
- Weighted Mean
- XY Plot

INPUT DATA: http://ui.iugan.org/inf/imp/IDE_Galaxies...

Import, Upload, Summary

Columnwise Tra

Columns	<input type="checkbox"/> X-Val	<input type="checkbox"/> log10
lgrekpc	<input type="checkbox"/>	<input type="checkbox"/>
lgsig	<input type="checkbox"/>	<input type="checkbox"/>
lgle	<input type="checkbox"/>	<input type="checkbox"/>

TABLE ACCESS PROTOCOL

> Available TAP Services

Short Name	Title	Pub
SIMBAD TAP	SIMBAD TAP query engine	CDS SIMBAD
AIP GAVO TAP	AIP DaCHS TAP service	GAVO at IAGLR for Astrophysics
Short Name has not been provided!!	CADC Table Query (TAP) Service	Canadian Centre for Astrophysics
GAVO DC TAP	GAVO Data Center TAP service	The GAVO Data Center
BASECOM	The Nancy Cometary	VO-Paris IAGLR

> Selected ResourceDescription ?

This service provides TAP access to a simplified view of the SIMBAD database

> TAP Parameter

TAP URL:

OK, Close

Features of AstroStat (Cont.)

The screenshot displays the AstroStat web interface. At the top, the header reads "AstroStat Statistical Analysis for the Virtual Observatory". Below the header is a navigation bar with icons for TAP, TXT, XML, a plus sign, a 'V' logo, a question mark, an 'A' logo, a yellow smiley face, and an envelope icon. The main interface is divided into several panels:

- SELECT TEST CATEGORY:** Includes tabs for "Exploratory", "Advanced", and "Expert". Under "Exploratory", there is a "SELECT EXPLORATORY TEST" section with radio buttons for: Anova, BoxPlot, Histogram, Mean, Standard Deviation, **Pairs Plot** (selected), Pearson, Kendall and Spearman, Probability Plot, Quantile Quantile Plot, Sample Generation, Simple Linear Regression Analysis, Weighted Mean, and XY Plot.
- INPUT DATA:** Contains a text input field with a URL, "Import" and "Upload" buttons, and a "Summary" link.
- TAP QUERY WINDOW (Modal):** A central window titled "TAP QUERY WINDOW" with a dropdown menu set to "TAP_SCHEMA.tables". It contains a table with the following data:

Name	Datatype	Description	Reso Inc
schema_name	VARCHAR	the schema name from TAP_SCHEMA.schemas	
table_name	VARCHAR	table name as it should be used in queries	
table_type	VARCHAR	one of: table, view	
description	VARCHAR	brief description of table	
othname	VARCHAR	OTHERTYPE if table corresponds to	

Below the table, it shows "ADQL Query" with radio buttons for "Type Of Query" (Synchronous selected, Asynchronous unselected). The query text is: `SELECT TOP 1000 main_id, flux, ra, dec, otype FROM basic JOIN flux ON old=oidref WHERE otype = 'galaxy..' ORDER BY flux ASC`. At the bottom of the window, there is a dropdown menu set to "Brightest Galaxies", a red asterisk, and a "Submit Query" button. Other buttons include "Load", "Save as VOTable", "Back", and "Close".
- Columnwise Transformations:** A section with a table for selecting transformations for columns. The columns are "Columns", "X-Val", and "log10". The rows are "lgrekpc", "lgsig", and "lgle".

Columns	X-Val	log10
lgrekpc	<input type="checkbox"/>	<input type="checkbox"/>
lgsig	<input type="checkbox"/>	<input type="checkbox"/>
lgle	<input type="checkbox"/>	<input type="checkbox"/>

Features of AstroStat (Cont.)

The screenshot displays the AstroStat web interface, which is designed for statistical analysis of astronomical data. The main header features the AstroStat logo and the tagline "Statistical Analysis for the Virtual Observatory". Below the header, there are several navigation icons, including TAP, TXT, XML, and a search icon. The interface is divided into several sections:

- SELECT TEST CATEGORY:** This section includes tabs for "Exploratory", "Advanced", and "Expert". Under the "Exploratory" tab, there is a "SELECT EXPLORATORY TEST" section with a list of test categories: Anova, BoxPlot, Histogram, Mean, Standard Deviation, Pairs Plot (selected), Pearson, Kendall and Spearman, Probability Plot, Quantile Quantile Plot, Sample Generation, Simple Linear Regression Analysis, Weighted Mean, and XY Plot.
- INPUT DATA:** This section includes a text input field for a URL (http://tdc-www.harvard.edu/tdc/tdc.html) and buttons for "Import" and "Upload".
- TAP QUERY WINDOW:** This is a modal window that allows users to execute TAP queries. It includes a "Table:" dropdown menu set to "TAP_SCHEMA.tables". Below this is a table with the following columns: Name, Datatype, Description, and Reso Inc. The table lists various table attributes such as schema_name, table_name, table_type, description, and otype. Below the table, there is a section for "ADQL Query" with a "Type Of Query" dropdown set to "Synchronous" (selected) and "Asynchronous". The query text is:

```
SELECT TOP 1000 main_id, flux, ra, dec, otype FROM basic JOIN flux ON main_id=oidref WHERE otype = 'galaxy..' ORDER BY flux ASC
```

 Below the query text, there is a "Brightest Galaxies" dropdown menu, a "Submit Query" button, and a "Query successful" message. At the bottom of the window, there are buttons for "Load", "Save as VOTable", "Back", and "Close".
- Columnwise Trajectory:** This section includes a table with columns "Columns", "X-Val", and "log10". The rows are labeled "lgrekpc", "lgsig", and "lgle".

Features of AstroStat (Cont.)

The screenshot displays the AstroStat web interface. At the top, the header reads "AstroStat Statistical Analysis for the Virtual Observatory". Below the header is a navigation bar with icons for TAP, TXT, XML, and other data formats. The main interface is divided into several panels:

- SELECT TEST CATEGORY:** Includes tabs for "Exploratory", "Advanced", and "Expert". Under "Exploratory", various statistical tests are listed, with "Pairs Plot" selected.
- INPUT DATA:** Contains a text input field with a URL and buttons for "Import" and "Upload".
- TAP QUERY WINDOW:** A modal window showing a table of TAP schema tables and an ADQL query.

The **TAP QUERY WINDOW** displays the following table:

Name	Datatype	Description	Reso Inc
schema_name	VARCHAR	the schema name from TAP_SCHEMA.schemas	
table_name	VARCHAR	table name as it should be used in queries	
table_type	VARCHAR	one of: table, view	
description	VARCHAR	brief description of table	
othyme	VARCHAR	ITYPE if table corresponds to	

Below the table, the ADQL query is shown:

```
SELECT TOP 1000 main_id, flux, ra, dec, otype FROM basic JOIN flux ON  
oid=oidref  
WHERE otype = 'galaxy..' ORDER BY flux ASC
```


The query window also includes a "Type Of Query" section with radio buttons for "Synchronous" (selected) and "Asynchronous". A "Submit Query" button is present, along with a "Query successful" message. At the bottom, there are buttons for "Load", "Save as VOTable", "Back", and "Close", and a green checkmark with the text "File loaded successfully".

Features of AstroStat (Cont.)

Firefox has prevented the outdated plugin "Java" from running on voi-apps.iucaa.in. Continue Blocking Allow...

AstroStat

Statistical Analysis for the Virtual Observatory



SELECT TEST CATEGORY

Exploratory **Advanced** Expert

SELECT EXPLORATORY TEST

- Anova
- BoxPlot
- Histogram
- Mean, Standard Deviation
- Pairs Plot
- Pearson, Kendall and Spearman correlation
- Probability Plot
- Quantile Quantile Plot
- Sample Generation
- Simple Linear Regression Analysis
- Weighted Mean
- XY Plot

INPUT DATA

Import

Browse... Upload

Close Close All [Data Summary](#)

Help

Help Example Notes

This is a statistical procedure to fit a straight line model to a pair of variables. Given a dependent/response variable y , which has an error sigma and an independent/explanatory variable x assumed to be known exactly, the aim of the procedure is to determine the best fit values of parameters m (slope) and c (intercept). Root mean squared value of the scatter of points from the best fit line, correlation coefficient r and its significance are also determined.

It is possible to input the two variables from separate data

Simple Linear Regression Analysis for jor_r.csv

Input	File Name	Columns	X-Val	log10(x)	loge(x)	exp(x)
X	<input type="text" value="jor_r.csv"/>	<input type="text" value="lgrekpc"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
X Error	<input type="text" value="jor_r.csv"/>	<input type="text" value="None"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Y	<input type="text" value="jor_r.csv"/>	<input type="text" value="lgsig"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Y Error	<input type="text" value="jor_r.csv"/>	<input type="text" value="None"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Weight	<input type="text" value="jor_r.csv"/>	<input type="text" value="None"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Covariance	<input type="text" value="jor_r.csv"/>	<input type="text" value="None"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Features of AstroStat (Cont.)

The screenshot displays the AstroStat software interface. At the top, the title bar reads "AstroStat Statistical Analysis for the Virtual Observatory". Below this is a toolbar with icons for TAP, TXT, XML, a plus sign, a 'V' logo, a question mark, an 'A' logo, a yellow warning icon, and an email icon. The main interface is divided into two main panels: "SELECT TEST CATEGORY" and "INPUT DATA".

The "SELECT TEST CATEGORY" panel has three tabs: "Exploratory", "Advanced", and "Expert". Under the "Exploratory" tab, there is a list of test categories: Anova, BoxPlot, Histogram, Mean, Standard Deviation, Pairs Plot, Pearson, Kendall and S, Probability Plot, Quantile Quantile Plot, Sample Generation, **Simple Linear Regression** (selected), Weighted Mean, and XY Plot.

The "INPUT DATA" panel shows a text field containing the URL "http://voi.iucaa.ernet.in/tmp/HDF_Galaxies.x" with an "Import" button. Below it is a "Browse..." button followed by the file name "jor_r.csv". There is also a dropdown menu showing "jor_r.csv" and buttons for "Close" and "Close All". To the right are "Upload" and "Data Summary" buttons.

A security warning dialog box is overlaid on the interface. The dialog title is "Do you want to run this application?". It features the JSAMP Hub logo and the following information:

- Name:** JSAMP Hub
- Publisher:** University of Bristol
- Location:** <http://astrojs.github.com/sampjs/hub/webhub.jsp>

 The dialog text states: "This application will run with unrestricted access which may put your computer and personal information at risk. Run this application only if you trust the publisher." There is a checkbox for "Do not show this again for apps from the publisher and location above" which is currently unchecked. At the bottom of the dialog are "Run" and "Cancel" buttons, along with a "More Information" link.

At the bottom of the interface, there is a table for configuring input data:

Input	File Name	Columns	X-Val	log10(x)	loge(x)	exp(x)
X	jor_r.csv	lgrekpc	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
X Error	jor_r.csv	None	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Y	jor_r.csv	lgsig	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Y Error	jor_r.csv	None	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Weight	jor_r.csv	None	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Covariance	jor_r.csv	None	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Features of AstroStat (Cont.)

The screenshot displays the AstroStat web interface. At the top, the header reads "AstroStat Statistical Analysis for the Virtual Observatory". Below the header is a navigation bar with icons for TAP, TXT, XML, a plus sign, a 'V' logo, a question mark, an 'A' logo, a yellow smiley face icon (circled in red), and an envelope icon. The main content area is divided into three sections:

- SELECT TEST CATEGORY:** Includes tabs for "Exploratory", "Advanced", and "Expert". Under "Exploratory", a list of tests is shown with radio buttons. "Simple Linear Regression Analysis" is selected.
- INPUT DATA:** Shows a text input field with the URL "http://vo.iucaa.emet.in/tmp/HDF_Galaxies.x", an "Import" button, a "Browse..." button, a dropdown menu showing "jor_r.csv", "Close", "Close All" buttons, an "Upload" button, and a "Data Summary" link.
- Help:** Contains a "Help" button, "Example", and "Notes" buttons. The text describes the statistical procedure for fitting a straight line model to a pair of variables.

Below these sections is a configuration table for "Simple Linear Regression Analysis for jor_r.csv":

Input	File Name	Columns	X-Val	log10(x)	loge(x)	exp(x)
X	jor_r.csv	lgrekpc	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
X Error	jor_r.csv	None	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Y	jor_r.csv	lgsig	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Y Error	jor_r.csv	None	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Weight	jor_r.csv	None	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Covariance	jor_r.csv	None	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

At the bottom right of the interface, there is a yellow smiley face icon (circled in red) and a red speech bubble icon.

Features of AstroStat (Cont.)

The screenshot displays the VizieR Service web interface. At the top, there is a navigation bar with links for Portal, Simbad, VizieR, Aclads, X-Match, and Other. The main content area is titled "VizieR Service" and includes a search bar with the text "Find catalogs among 13493 available" and a "Find" button. Below this, there are several search criteria sections: "Search Criteria" on the left, "Find catalogs among 13493 available" in the center, and "Search by Position across 14325 tables" at the bottom. A table of catalogs is visible, with columns for Wavelength, Mission, and Astronomy. A small image of a star or galaxy is shown on the right side of the search area. At the bottom, there are links for "Tools related to VizieR" and "Thanks for acknowledging the VizieR Service".

VizieR Service

Find catalogs among 13493 available

Clear MDQ Find Expand search

Catalog author name
word(s) from title, description, etc.
e.g.: J03, Taurus, J200, or Idraculo...

Search for catalogs by column descriptions (UCD)
Search for catalogs containing additional data

Search by Position across 14325 tables
Target Name (resolved by Simbad) or Position:
Clear J2000 2 arcmin Go
Radius Box size

More about VizieR - 1 matching catalogs Find Catalogs

Wavelength	Mission	Astronomy
Radio	Akari	Abundances
IR	ANS	Ages
optical	ASCA	AGN
UV	BeppoSAX	Associations
EUV	CGRO	Atomic_Data
X-ray	Chandra	Binaries cataclysmic
Gamma-ray	COBE	Binaries eclipsing

Tools related to VizieR

- [Photometry viewer](#) : Plot photometry (and) including all VizieR
- [TAP VizieR](#) : query VizieR using ADQL (a SQL extension dedicated for astronomy)
- [CDS cross match service](#) : fast cross-identification between any 2 tables, including VizieR catalogues, SIMBAD

— Thanks for acknowledging the VizieR Service
— Rules of usage of VizieR data

© UDS/OMES
Contact

Features of AstroStat (Cont.)

The screenshot displays the VizieR Search Page in a web browser. The page title is "VizieR Search Page". On the left, there is a "Search Criteria" sidebar with sections for "Keywords", "Tables", "Preferences", and "Miscellaneous". The main content area is titled "Simple Target" and "List Of Targets". It features a search form with fields for "Target Name (involved by J2000)", "Target distance", and "Target dimension". Below the search form, there is a section for "ROSAT Bright Survey (Finckh+, 1998-2000)" with a "Zout association" link. The main part of the page is a "Simple Constraint" section, which includes a table of constraints. The table has columns for "Show", "Sort", "Column", "Constraint", and "Explain (FCD)". The constraints listed are: record number assigned by the VizieR team, RHS number, Optical right ascension (2000), Optical declination (2000), Positional difference between the optical and X-ray coordinates, Classification of the object, Type of the object, Redshift, Optical brightness, Integrated X-ray flux between 0.5 and 2.0keV, Radio flux at 1.4GHz, and Notes detailed in note's dat. At the bottom, there are "Adapt form" options and a footer with "Thanks for acknowledging the VizieR Service" and "Rules of usage of VizieR data".

VizieR Search Page

Search Criteria

Keywords: M11

Tables: IX/32

Preferences: max: 50

HTML: 7 table

Display: All columns

Sort by: Distance

Position in: Integrated

Miscellaneous: CDS, France

Target Name (involved by J2000): Clear J2000 2 arcmin

Target distance: * Radius Box size

ROSAT Bright Survey (Finckh+, 1998-2000)

Zout association

IX/32

Summary of the optical identification program of the new sources in the RHS-sample. (64 rows)

Simple Constraint: List Of Constraints

Query by Constraints applied on Columns (Output Order: * + -)

Show	Sort	Column	Constraint	Explain (FCD)
<input type="checkbox"/>	<input type="radio"/>	record		Record number assigned by the VizieR team. Should Not be used for identification. (meta:record)
<input checked="" type="checkbox"/>	<input type="radio"/>	RHS		RHS number (meta:id,meta:main)
<input checked="" type="checkbox"/>	<input type="radio"/>	RA2000	'ra_mj'	Optical right ascension (2000) (pos_eq.ra,meta:main)
<input checked="" type="checkbox"/>	<input type="radio"/>	DE2000	'dec_mj'	Optical declination (2000) (pos_eq.dec,meta:main)
<input checked="" type="checkbox"/>	<input type="radio"/>	Dist	'rc:rc'	Positional difference between the optical and X-ray coordinates (pos.and:distance)
<input checked="" type="checkbox"/>	<input type="radio"/>	Class	(:class)	Classification of the object (src:class)
<input checked="" type="checkbox"/>	<input type="radio"/>	Type	(:type)	Type of the object (src:type)
<input checked="" type="checkbox"/>	<input type="radio"/>	z		Redshift (src:redshift)
<input checked="" type="checkbox"/>	<input type="radio"/>	Vmag	'mag'	Optical brightness (phot.mag,em.opt.V)
<input checked="" type="checkbox"/>	<input type="radio"/>	FX	'10-15W/m2'	Integrated X-ray flux between 0.5 and 2.0keV (phot.flux,em.X,em)
<input checked="" type="checkbox"/>	<input type="radio"/>	Fr	'mJy'	Radio flux at 1.4GHz (phot.flux.density,em.radio.750-1500MHz)
<input checked="" type="checkbox"/>	<input type="radio"/>	Notes	(:note)	Notes detailed in note's dat (meta:note)

ALL cols Reset All Clear

Adapt form: Display your selection only [Modify] Return to default columns [Modify]

Display UCD1+ UCD1

Thanks for acknowledging the VizieR Service

Rules of usage of VizieR data

© UDS/ONRS Contact

Features of AstroStat (Cont.)

A screenshot of the AstroStat web interface showing a VizieR Result Page. The browser address bar shows 'vizieR.cds.fr'. The page title is 'VizieR Result Page'. The search criteria on the left include 'RAJ2000' and 'DEJ2000'. The main content area displays a table of astronomical objects with columns for RA, Dec, Class, Type, and various magnitude and error metrics. The table is titled 'ROSAT Bright Survey (Fischer, 1998-2000)' and contains 54 rows of data. The table is color-coded, with some rows highlighted in red and others in blue. The table columns are: RAJ2000, DEJ2000, RAJ2000, DEJ2000, Obs, Class, Type, r, Ymag, EX, Er, Notes. The table data is as follows:

RAJ2000	DEJ2000	RAJ2000	DEJ2000	Obs	Class	Type	r	Ymag	EX	Er	Notes
2 00 18 27.8	+29 47 32	2 00 18 27.8	+29 47 32	2	AGN	BL	0.100	19.4	4.3	34.7	C.1
2 00 20 21.7	+10 34 45	2 00 20 21.7	+10 34 45	16	AGN	Sy1	0.163	17.4	3.7		
2 00 34 16.6	-79 05 21	2 00 34 16.6	-79 05 21	16	AGN	Sy1	0.074	15.4	5.7		
2 00 35 14.9	+15 15 04	2 00 35 14.9	+15 15 04	9	AGN	BL		16.3	2.1	18.7	
2 00 40 52.9	-07 42 10	2 00 40 52.9	-07 42 10	10	AGN	Sy1	0.055	16.5	3.7		
2 00 43 52.0	+24 24 21	2 00 43 52.0	+24 24 21	18	CLG		0.083	17.2	5.8	49.9	C.2
2 00 58 16.7	+17 23 14	2 00 58 16.7	+17 23 14	15	AGN	BL		20.3	3.8	9.2	1
2 01 09 08.2	+18 16 07	2 01 09 08.2	+18 16 07	4	AGN	BL		16.6	4.2	90.8	
2 01 10 49.9	-12 55 02	2 01 10 49.9	-12 55 02	7	AGN	BL	0.234	17.9	6.4	17.4	C
2 01 25 58.0	+15 18 12	2 01 25 58.0	+15 18 12	2	AGN	Sy1	0.111	17.5	2.3		
2 01 56 00.2	+15 02 13	2 01 56 00.2	+15 02 13	7	AGN	BL	0.080	19.8	3.6		C.1
2 02 06 39.0	-71 48 21	2 02 06 39.0	-71 48 21	7	AGN	Sy1	0.260	18.8	2.8	501.0	1
2 02 07 02.2	+29 30 46	2 02 07 02.2	+29 30 46	12	AGN	Sy1.8	0.111	16.8	2.6	1613.1	1
2 02 16 32.1	+23 14 47	2 02 16 32.1	+23 14 47	3	AGN	BL		17.9	5.1	35.7	1
2 02 42 14.6	+05 30 36	2 02 42 14.6	+05 30 36	9	AGN	Sy1	0.069	16.0	5.1	3.1	1
2 02 45 24.1	+14 35 22	2 02 45 24.1	+14 35 22	5	STAR			7.9	2.3		6
2 03 00 08.0	+16 30 15	2 03 00 08.0	+16 30 15	10	AGN	Sy1	0.035	16.4	5.0		
2 03 01 38.2	+01 55 15	2 03 01 38.2	+01 55 15	5	CLG		0.170	18.0	2.9	393.6	C.2
2 03 03 30.1	+05 54 17	2 03 03 30.1	+05 54 17	8	AGN	BL	0.196	17.9	3.9	29.6	C
2 03 14 23.9	+06 19 57	2 03 14 23.9	+06 19 57	3	AGN	BL		17.9	8.7	29.3	
2 03 16 12.8	+09 04 43	2 03 16 12.8	+09 04 43	4	AGN	BL		18.2	2.3	55.4	
2 03 27 39.2	-58 09 50	2 03 27 39.2	-58 09 50	13	STAR	dKe		11.7	2.5		
2 03 34 24.4	-15 13 40	2 03 34 24.4	-15 13 40	14	AGN	Sy1.5	0.035	15.8	3.0	4.7	1.7
2 03 52 57.4	-68 31 19	2 03 52 57.4	-68 31 19	2	CLG		0.087	17.1	7.9	178.0	C.1
2 04 41 53.9	-08 26 34	2 04 41 53.9	-08 26 34	10	AGN	Sy1	0.044	15.7	2.5		2
2 05 35 26.7	-43 22 45	2 05 35 26.7	-43 22 45	9	AGN	Sy1.5	0.065	16.8	1.9		
2 05 43 57.3	-55 32 08	2 05 43 57.3	-55 32 08	2	AGN	BL		17.4	8.3		
2 08 27 13.9	+41 28 38	2 08 27 13.9	+41 28 38	8	STAR			10.6	2.3		6
2 08 38 11.1	+24 53 44	2 08 38 11.1	+24 53 44	8	AGN	Sy1	0.028	16.3	2.4	45.6	1.10
2 09 47 12.5	+76 23 14	2 09 47 12.5	+76 23 14	4	AGN	LINER	0.354	19.2	3.0	22.4	
2 10 56 06.6	+02 52 13	2 10 56 06.6	+02 52 13	6	AGN	BL	0.235	19.5	6.8	4.3	
2 11 24 07.3	+06 12 47	2 11 24 07.3	+06 12 47	13	AGN	Sy1.5-1.8	0.036	16.2	4.3		
2 11 45 16.3	+79 40 52	2 11 45 16.3	+79 40 52	3	AGN	Sy1(NLS1)	0.006	15.2	4.5		
2 12 07 11.5	-17 46 06	2 12 07 11.5	-17 46 06	4	AGN	BL		20.5	3.0	4.3	1.1

Features of AstroStat (Cont.)

The screenshot displays the AstroStat VizieR interface. The main content is a table of astronomical data with columns for various identifiers and properties. A security dialog box is overlaid on the table, asking for authorization to connect to the SAMMP Hub.

VizieR Result Page

The 2 columns in *color* are computed by VizieR, and are *not part of the original data*.

EX Table 3
Emissionlines
ROSAT Bright Survey (Fischer*, 1998-2000)
Summary of the optical identification program of the new sources in the R15-sample. (54 rows)

RAJ2000	DEJ2000	R15	RA2000	DE2000	Obs	Class	Type	r	Ymag	EX	Er	Notes
hh:mm:ss	dd:mm:ss		hh:mm:ss	dd:mm:ss	status				mag	10.159/m2	mb	
2 00 18 27.8	+29 47 32		2 00 18 27.8	+29 47 32		2	AGN	BL	0.100	1		
2 00 20 21.7	+10 34 45		2 00 20 21.7	+10 34 45		16	AGN	Sy1	0.163	1		
2 00 34 16.6	-79 05 21		2 00 34 16.6	-79 05 21		16	AGN	Sy1	0.074	1		
2 00 35 14.9	+15 15 04		2 00 35 14.9	+15 15 04		9	AGN	BL		1		
2 00 40 52.9	-07 42 30		2 00 40 52.9	-07 42 30		10	AGN	Sy1	0.055	1		
2 00 43 52.0	+24 24 21		2 00 43 52.0	+24 24 21		18	CLG		0.083	1		
2 00 58 16.7	+17 23 34		2 00 58 16.7	+17 23 34		15	AGN	BL		2		
2 01 09 08.2	+18 16 07		2 01 09 08.2	+18 16 07		4	AGN	BL		1		
2 01 10 49.9	-12 55 02		2 01 10 49.9	-12 55 02		7	AGN	BL	0.234	1		
10 01 25 58.0	+15 18 12		10 01 25 58.0	+15 18 12		2	AGN	Sy1	0.111	1		
11 01 56 00.2	+15 02 33		11 01 56 00.2	+15 02 33		7	AGN	BL	0.080	1		
12 02 06 39.0	-71 48 21		12 02 06 39.0	-71 48 21		7	AGN	Sy1	0.260	1		
12 02 07 02.2	+29 30 46		12 02 07 02.2	+29 30 46		12	AGN	Sy1.8	0.111	1		
14 02 16 32.1	+23 14 47		14 02 16 32.1	+23 14 47		3	AGN	BL		1		
12 02 42 14.6	+05 30 36		12 02 42 14.6	+05 30 36		9	AGN	Sy1	0.069	1		
16 02 45 24.1	+14 35 22		16 02 45 24.1	+14 35 22		5	STAR					
17 03 00 08.0	+16 30 15		17 03 00 08.0	+16 30 15		10	AGN	Sy1	0.035	1		
18 03 01 38.2	+01 55 15		18 03 01 38.2	+01 55 15		5	CLG		0.170			
19 03 03 30.1	+05 54 17		19 03 03 30.1	+05 54 17		8	AGN	BL	0.196	17.9	3.9	29.6
20 03 14 23.9	+06 19 57		20 03 14 23.9	+06 19 57		3	AGN	BL		17.9	8.7	29.3
21 03 16 12.8	+09 04 43		21 03 16 12.8	+09 04 43		4	AGN	BL		18.2	2.3	55.4
22 03 27 39.2	-58 09 50		22 03 27 39.2	-58 09 50		13	STAR	dKe		11.7	2.5	
22 03 34 24.4	-15 13 40		22 03 34 24.4	-15 13 40		14	AGN	Sy1.5	0.035	15.8	3.0	4.7
24 03 52 57.4	-68 31 19		24 03 52 57.4	-68 31 19		2	CLG		0.087	17.1	7.9	178.0
25 04 41 53.9	-08 26 34		25 04 41 53.9	-08 26 34		10	AGN	Sy1	0.044	15.7	2.5	2
26 05 35 26.7	-43 22 45		26 05 35 26.7	-43 22 45		9	AGN	Sy1.5	0.065	16.8	1.9	
27 05 43 57.3	-55 32 08		27 05 43 57.3	-55 32 08		2	AGN	BL		17.4	8.3	
28 08 27 13.9	+41 28 38		28 08 27 13.9	+41 28 38		8	STAR			10.6	2.3	6
28 08 38 11.1	+24 53 44		28 08 38 11.1	+24 53 44		8	AGN	Sy1	0.028	16.3	2.4	45.6
30 09 47 12.5	+76 23 14		30 09 47 12.5	+76 23 14		4	AGN	LINER	0.354	19.2	3.0	22.4
31 10 56 06.6	+02 52 13		31 10 56 06.6	+02 52 13		6	AGN	BL	0.235	19.5	6.8	4.3
32 11 24 07.3	+06 12 47		32 11 24 07.3	+06 12 47		13	AGN	Sy1.5-1.8	0.036	16.2	4.3	
33 11 45 16.3	+79 40 52		33 11 45 16.3	+79 40 52		3	AGN	Sy1,NLS1	0.006	15.2	4.5	
34 12 07 11.5	-17 46 06		34 12 07 11.5	-17 46 06		4	AGN	BL		20.5	3.0	4.3

SAMMP Hub Security

The following application, probably running in a browser, is requesting SAMMP Hub registration:

Name: VizieR
Origin: http://vizier.u-strasbg.fr
URL: http://vizier.u-strasbg.fr/viz-bin/VizieR-4

If you permit this, it may be able to access local files and other resources on your computer.

You should only accept if you have just performed some action in the browser, on a web site you trust, that you expect to have caused this.

Do you authorize connection?

Features of AstroStat (Cont.)

The screenshot displays the AstroStat web interface. At the top, the header reads "AstroStat Statistical Analysis for the Virtual Observatory". Below the header is a navigation bar with icons for TAP, TXT, XML, a plus sign, a 'V' logo, a question mark, an 'A' logo, a yellow smiley face, and an envelope icon. The main content area is divided into several panels:

- SELECT TEST CATEGORY:** This panel has three tabs: "Exploratory", "Advanced", and "Expert". Under the "Exploratory" tab, there is a section titled "SELECT EXPLORATORY TEST" with a list of radio button options: Anova, BoxPlot, Histogram, Mean, Standard Deviation, **Pairs Plot** (selected), Pearson, Kendall and Spearman correlation, Probability Plot, Quantile Quantile Plot, Sample Generation, Simple Linear Regression Analysis, Weighted Mean, and XY Plot.
- INPUT DATA:** This panel shows a text input field containing the URL "http://voi.iucaa.ernet.in/tmp/HDF_Galaxies.x". To the right are "Import" and "Upload" buttons. Below the input field is a "Browse..." button with the text "No file selected." and a dropdown menu showing "VizieR_IX_30_seq". To the right of the dropdown are "Close" and "Close All" buttons. A "Data Summary" link is also present. A green checkmark and the text "Upload Complete" are displayed below the input area.
- Help:** This panel has a "Help" button and two sub-sections: "Example" and "Notes". The "Notes" section contains the following text: "This is a graphical representation of a matrix of scatter plots providing some insight into the relationship between the selected variables. Following information is provided by the plot matrix -
1: On the diagonal, density curves of each variable are shown
2: Below the diagonal are scatter plots for pairs of variables
3: Above the diagonal, correlation between every pair of variables is shown".
- Pairs Plot for VizieR_IX_30_seq_2.vot:** This panel is titled "Columnwise Transformations:" and contains a table with columns for "Columns", "X-Val", "log₁₀(x)", "loge(x)", and "exp(x)". The rows are "ExpTime", "RAJ2000", and "DEJ2000". All checkboxes in the table are currently unchecked. To the right of the table are "Plot Format" options: "PostScript", "JPEG" (selected), "PDF", and "PNG". A "Run Test" button is located below the plot format options.

Introduction to PyMorph



- ❧ PYMORPH is a stand-alone Python pipeline
- ❧ Described in “*PYMORPH: Software for Automated Galaxy Morphological Parameter Estimation*” by Vinu et al. (2010)
- ❧ Designed for the estimation of structural parameters of galaxies
- ❧ Supports parametric fits through 2-D bulge-disc decomposition and also non-parametric indicators of morphology

Introduction to PyMorph (cont.)



- External software modules used by PYMORPH
 - GALFIT (Peng et. al. 2002) for bulge-disk decomposition
 - SExtractor (Bertin et. al. 1996) for determining the guess values for model fitting
 - IRAF / PyRAF for fitting ellipses to the isophotes of a galaxy
- Uses own modules to calculate Concentration index, Asymmetry, Clumpness etc.

Working of PyMorph

VOI PyMorph Service

[Acknowledgements](#) [Edit Profile](#) [Logout](#)

Input Form

Job Output

0 **RUNNING**, 5 **COMPLETED**, 0 **FAILED**

PyMorph [User Manual](#)

Select the FITS file on which pymorph has to run

Image File

Weight File

PSF File

Pixel Scale arc-sec/pixel

Magnitude zero point

Label

Show/Hide all config params



Copyright © 2014-15 Virtual Observatory India. All rights reserved.

Contact us: voindia@lucaa.ernet.in

Working of PyMorph

VOI PyMorph Service

[Acknowledgements](#) [Edit Profile](#) [Logout](#)

Input Form

Job Output

0 **RUNNING**, 5 **COMPLETED**, 0 **FAILED**

PyMorph [User Manual](#)

Select the FITS file on which pymorph has to run

Image File

Weight File

PSF File

Pixel Scale arc-sec/pixel

Magnitude zero point

Label

Show/Hide all config params



Copyright © 2014-15 Virtual Observatory India. All rights reserved.

Contact us: voindia@lucaa.ernet.in

Input Form

Job Output

0 RUNNING, 5 COMPLETED, 0 FAILED

PyMorph [User Manual](#)

Select the FITS file on which pymorph has to run

Image File Weight File PSF File Pixel Scale arc-sec/pixelMagnitude zero point Label Show/Hide all config params

Parameters for PSF selection

Do you want to select PSF ? PSF image size is times the semi major axis (SMA) given by SExtractor

Parameters for masking neighbours

*Masking will be done for neighbours whose $(SMA * thresh)$ overlaps with $(SMA * thresh)$ of the object and isophotal area of the neighbour is less than $(thresh_area * object_area)$ in sq pixel.*Manual Mask Threshold (thresh) Threshold Area (thresh_area) Mask Region is times the semi major axis length of the neighbour

Size of the galaxy cutout

Resize Vary cutout size ? Cutout size is times half light radius of the galaxyFixed cutout size pixelsSearch Radius

Parameters for calculating the physical parameters of galaxy

Hubble parameter Omega matter

Working of PyMorph

VOI PyMorph Service

[Acknowledgements](#) [Edit Profile](#) [Logout](#)

Input Form

Job Output

0 **RUNNING**, 5 **COMPLETED**, 0 **FAILED**

PyMorph [User Manual](#)

Select the FITS file on which pymorph has to run

Image File

Weight File

PSF File

Pixel Scale arc-sec/pixel

Magnitude zero point

Label

Show/Hide all config params



Copyright © 2014-15 Virtual Observatory India. All rights reserved.

Contact us: voindia@lucaa.ernet.in

Working of PyMorph

VOI PyMorph Service

[Acknowledgements](#) [Edit Profile](#) [Logout](#)

Input Form **Job Output**

0 **RUNNING**, 5 **COMPLETED**, 0 **FAILED**

PyMorph [User Manual](#)

Select the FITS file on which pymorph has to run

Image File

Weight File

PSF File

Pixel Scale arc-sec/pixel

Magnitude zero point

Label

Show/Hide all config params



Working of PyMorph

VOI PyMorph Service

[Acknowledgements](#) [Edit Profile](#) [Logout](#)

Input Form **Job Output**

0 **RUNNING**, 5 **COMPLETED**, 0 **FAILED**

Note:

1. The status shown for a job in the Jobs Table might not match the job status as inferred from the tasks table. The status changes in this order QUEUED -> RUNNING -> COMPLETED / FAILED
2. Our system will automatically delete the jobs older than days.
3. Anonymous jobs submitted by an individual can be viewed by any user. If you want to keep your job private, please submit a job after login into the system.

List of submitted jobs

Show entries

Search:

Job ID	Status	Time	label
080615153921	FINISHED	Saturday June 8 15:57:49 IST 2015	
080615180104	FINISHED	Saturday June 8 18:01:25 IST 2015	
080615181658	FINISHED	Saturday June 8 18:17:19 IST 2015	
080615181854	FINISHED	Saturday June 8 18:20:09 IST 2015	
080615190752	FINISHED	Saturday June 8 19:08:14 IST 2015	
100615170220	FINISHED	Saturday June 10 17:04:56 IST 2015	

Showing 1 to 6 of 6 entries

Previous

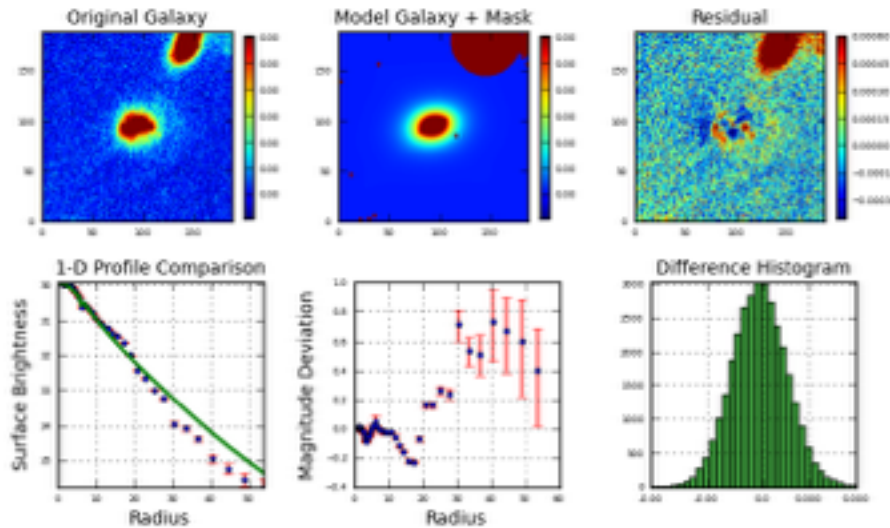
1

Next



Working of PyMorph

Image	lh_wdf_z_513.fits NED	RA	03 32 41.6
Init. par. file	G_lh_wdf_z_513.in	Dec	-27 47 50.5
Restart file	galfit.43	z	9999
χ^2/ν	0.65	Goodness	0.66
Separation between psf and image			12.64 arc sec



good fit

Component	Center (x)	Center (y)	Magnitude	Scale Radius (pixels)	Scale Radius (kpc)	n	Axis Ratio	Position Angle	Boxy/Disky
seraic	92.51	94.77	25.88	6.87	9999.	0.73	0.15	-63.62	0.00
	0.11	0.06	0.02	0.15	9999.	0.05	0.01	0.42	0.00
expsdk	92.97	94.75	23.42	9.59	9999.		0.71	-77.35	0.00
	0.05	0.02	0.00	0.06	9999.		0.00	0.65	0.00
Concentration	Asymmetry	Clumpness	Gini Coefficient	M20	B/D	B/T	MagInRe		
9999	9999	9999	9999	9999	0.103	0.094	24.43		

Thank you



Director:

Ajit K. Kembhavi

Principal Investigator (PI):

Dipankar Bhattacharya

Developer Team:

Prerak Garg

Ajay Vibhute

Santosh Jagade

For any suggestion & query: voindia@iucaa.ernet.in