Dips
Graphical and Statistical Analysis of Orientation Data

What is Dips?

Dips is designed for the interactive analysis of orientation-based geological data. The program is capable of many applications and is designed for both the novice user and for the accomplished user of stereographic projection who wishes to utilize more advanced tools in the analysis of geological data. Dips allows the user to analyze and visualize structural data following the same techniques used in manual stereonets. In addition, it has many computational features such as statistical contouring of orientation clustering, mean orientation and confidence calculation, cluster variability, kinematic analysis, and qualitative and quantitative feature attribute analysis.

Plot poles, planes, and contours on a 3D hemisphere view

What's New in Dips

Dips introduces a variety of new features to significantly enhance the functionality of the software:

- Introducing the 3D Stereosphere, allowing you to plot poles, planes, and contours on a 3D hemisphere view, which is the basis for generating a 2D stereonet.
- New Curved Borehole Analysis eliminates the need for you to manually subdivide curved boreholes into linear segments.
- Dips allows you to calculate true Joint Spacing of joints in a joint set, calculated from distance measurements recorded along a linear or borehole traverse
- The Kinematic Analysis option in Dips now offers an additional feature: Kinematic Sensitivity Analysis of slope parameters.
- Contour Arbitrary Data on Stereonet: In addition to contouring pole densities, Dips allows you to contour the magnitude of other quantitative directional variables on the stereonet (e.g. principal stress data)
- A new addition to the stereonet toolkit is the Intersection Calculator. You can now easily find the exact intersection of two planes, or the plane that passes through two points.

Plans & Pricing

Personal License: Locked to one computer.

- Lease: **USD $395/year**
  Leased annually. Includes Maintenance+.
- Perpetual: **USD $795**
  Purchased outright. Includes 12 months of Maintenance+.

Flexible License: Installed on any number of machines. The license file sits on the server.

- Lease: **USD $595/year**
  Leased annually. Includes Maintenance+.
- Perpetual: **USD $1,195**
  Purchased outright. Includes 12 months of Maintenance+.

Maintenance+

Maintenance+ is our enhanced maintenance and support services subscription, purchased annually at 20% of the license cost.

With Maintenance+ Continuous Software you get access to all feature releases, enhancements, and bug fixes throughout the year and as soon as they're available. You also have access to convenient License Services, the support of our experts, and exclusive learning offerings.

Contact us at **software@rocscience.com**

Find more details: rocscience.com/software/dips

File Output
- Eexport to Excel
- JTDIST utility program—define up to five synthetic joint sets, generate a Dips file
- Save processed file

Filtering / Attribute Analysis
- Create charts or symbolic pole plots based on any data column in the file
- Edit symbols, create symbol master list
- Filter by set
- Histogram, line or pie charts
- Plot qualitative/quantitative data
- Powerful database query, easily create data subsets

Input Data
- Curved borehole analysis—input collar and survey files
- Declination for magnetic/azimuth correction
- Distance column
- Integrated spreadsheet
- Linear/planar orientation data
- Quantity column for multiple identical data entries
- Unlimited number of columns for additional data

Jointing Analysis
- Joint Frequency (unweighted or weighted)
- Joint Set Spacing (true spacing or apparent spacing)
- Metric or Imperial units
- Plot selected traverses or all traverses
- RQD Analysis (discrete or moving interval)

Kinematic Analysis
- Apply declination to slope dip direction
- Apply Terzaghi weighting to pole count
- Direct toppling
- Export results to Excel

- Flexural toppling
- Highlight critical zones
- Highlight slope plane on stereonet
- Lateral limits
- Planar sliding
- Poles, dip vectors, intersections
- Kinematic sensitivity analysis: sensitivity plots of slope dip, dip direction, friction angle, lateral limits, for planar sliding, wedge sliding, toppling analysis
- Wedge sliding

Orientation Formats
- Dip/dip direction
- Multiple formats in one file using traverses
- Oriented core (alpha/beta)
- Strike/dip (right or left hand rule for strike)
- Trend/plunge (linear data)

Projections
- Equal angle, equal area
- Upper/lower hemisphere

Statistical Analysis
- Best fit plane through poles (fold analysis)
- Confidence and variability cones
- Fisher distributions for contour plots
- Fuzzy cluster analysis for automatic detection of joint sets
- Global mean vector
- Mean vector calculation
- Statistics listed in Info Viewer
- User-defined set windows for orientation (pole) clusters

Stereonet Plots
- 3D stereosphere
- Contour arbitrary data on stereonet
- Contour plot
- Customize display options
- Overlay of contours, poles, planes, intersections

- Planes plot
- Pole or dip vector mode
- Pole plot
- Plot traverse orientations on stereonet
- Rosette plot
- Scatter plot
- Symbolic plot
- View intersections

Stereonet Toolkit
- Add planes (rubber plane for interactive data analysis)
- Data rotation about arbitrary axis
- Daylight envelopes for sliding analysis in slope design
- Drawing tools, text annotations
- Intersection calculator
- Onscreen angle measurement
- Onscreen pole identification
- Plot lineations on planes
- Polar/equatorial grid overlay
- Small circles about any axis (e.g. friction circles, toppling bounds)
- User-defined trend/strike reference line

Traverses
- Bias correction (Terzaghi weighting)
- Borehole (oriented core)
- Clinorule
- Curved borehole (oriented core)
- Curved borehole (televiewer)
- Linear (e.g. scanline)
- Linear borehole (televiewer)
- Planar (e.g. wall map)

Viewing Options
- Current view state saved with file
- Global undo/redo
- Improved printing with customizable headers and footers
- Interactive graphical editing
- Save plots to .bmp, .jpg, .metafile, .png, .gif
- Sidebar for quick access to display