molecular orbitals, but the integration of the optional application modules (SciQSAR, SciProtein, SciPolymer, and SciLogP) is a strength. Alchemy 2000 and the application modules run under Windows 95, 98, or NT.

—RAMA K. KONDRU AND ASHVANI K. SINGH

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TECHSIGHTING
SOFTWARE

Origin Update

Origin 6.0 is the most recent version of the popular data analysis and graphics software developed by Microcal. The major enhancements to this version of Origin are the Project Explorer, drag-and-drop plotting, data masking, expanded graphics export, and customizable toolbars. The Project Explorer is a Windows Explorer-like interface within the program. It allows one to create folders within a project to categorize data, graphs, or results, thus not only reducing project loading time, but also allowing the user to find and open files very quickly. The drag-and-drop plotting feature can quickly plot data identified by highlighting the desired columns and dragging to the plot window. Data masking with the Mask toolbar allows one to temporarily exclude outliers or specified data ranges during data analysis and to color code or hide the masked data.

Origin 6.0
Microcal Software, Inc.
Northhampton, MA
Origin 6.0, $595;
Origin 6.0 Professional, $895
413-586-2013
www.microcal.com

The versatile import and export formats supported by Origin 6.0 make it compatible with numerous other data acquisition, analysis, and presentation or publication applications. A pClamp module, used to read Axon binary files, is built into Origin 6.0. Additional formats supported by Origin 6.0 include Excel; Lotus; dBase; DIF; WAV; Mathematica vectors and matrices; LabTech; KaleidaGraph; Encapsulated Postscript (EPS); Adobe Illustrator (AI); Enhanced Metafile (EMF); Computer Graphics Metafile (CGM); Bitmap (BMP); Tag Image File (TIF); and Adobe Photoshop (PSD) formats.

Origin 6.0 has numerous built-in graphical plot types. These include simple line and scatter plots, vector plots, polar and ternary plots, three dimensional (3D) color-mapped surface and contour plots, and 3D pie charts. Line thickness, symbols, and other graphical display properties can easily be modified from the new Plot Details dialog box. The ability to layer plots and to link those layers and axes continues to be one of the most useful features of Origin. Multiple layers and graph axes can be linked so that changes in scaling for one layer are automatically applied to the other linked layers. The template functions in Origin enable one to create and save frequently used data analysis and graph formats. This, along with the Origin scripting language, LabTalk, can facilitate analysis of large data sets.

The built-in Origin 6.0 data analysis tools are numerous and include descriptive statistics, *t* test, analysis of variance (ANOVA), linear regression, baseline and peak analysis, Fast Fourier Transform (FFT), smoothing, filtering, and calculus operations. Nearly 200 built-in fitting functions can be executed by the Origin nonlinear least squares fitting algorithm. The graphical interface for nonlinear fitting displays equations and sample curves for selected functions. In addition, user-defined functions can be written for nonlinear least squares fitting within Origin. Unfortunately, in this version, LabTalk scripting can no longer be used for data acquisition.

The product technical support is extensive and includes free telephone support, software manuals, online help, and a discussion forum for posting technical and trouble-shooting issues. In addition, patches that fix program "bugs" are available at the Microcal website, as are program add-ons and LabTalk scripts written by other Origin users. The Origin 6.0 manuals and tutorials that come with the software are very well written and helpful.

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TECHSIGHTING
SOFTWARE

Eye on the Sky

Distant Suns software brings the heavens to the screen of a personal computer. Designed primarily as a learning tool for interested amateur astronomers and college-level students, the program superbly delivers a great number of features in a product that is easy to use. Distant Suns avoids the explicit use of mathematics while providing good explanations of many astronomical phenomena.

At startup, the screen displays a view of the night sky centered on the pole star for the current date, time, and location. Three buttons provide easy access to useful program functions: the planetarium (the main feature of the program, which shows astronomical displays), the grab bag (a collection of relevant astronomical facts), and the calendar feature (which allows the viewer to move forward or backward by months to locate astronomical events). Other buttons will set the sky to appear as it would at sunrise or sunset of a given day or to center the view looking north or south. The sky can be observed from many perspectives, centered on the sun or moon, or on an arbitrary point in space. Names of planets and Messier objects can be toggled on or off, as can constellation lines. User-adjustable clock functions control animations of planetary motions that can be sped up, stopped, or reversed. Another button illustrates what the developers feel are the "best" deep sky objects.

Distant Suns 5.1
Monkey Byte Development, LLC
San Luis Obispo, CA
$34.95
800-522-3774
www.monkeybyte.com

The program can display special effects such as eclipses, planetary motions, asteroid approaches, and other solar system events. Orbits can be plotted for objects, the next meteor shower information is easily identified, and a user-positionable tool palette allows instant access to planetary views and data. For the latest discoveries, Distant Suns maintains an up-to-date website. Both NASA's Skymap and Hubble Guide Star Catalog were used in the program's database, so over 21,000 stars are available. All 110 Messier objects are included as well as 1500 of the objects from the New General Catalog (NGC). There is more than enough power to keep the average undergraduate astronomy class profitably occupied and the amateur astronomer delighted.

The program lacks a preprinted manual, but a complete reference guide may be printed from the CD-ROM. It contains instructions for using the program; explanations of astronomical terms and concepts; a guide to the solar system, stars, and deep sky objects (galaxies, clusters, and nebulae); the Messier Catalog and abbreviated NGC catalog; brief tables of planetary data and meteor showers; and a list of references. It even contains a section on buying a telescope. Many photographs and diagrams are included, some in color. Although brief, the explanations in the reference guide will go far to supplement the usual textbooks. Overall, Distant Suns is a very worthwhile learning guide at a great price.

—JOHN A. WASS

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