



Figure 3. Bilinear fitting.

JMP (Versions 1 and 2) has been reviewed and benchmarked along with other commercial numerical visualization programs in several computer magazines.⁶

JMP software should not be confused with the SAS System, SAS Institute's flagship product that is currently available on mainframes, minicomputers, UNIX-based workstations, and PCs. JMP software is an entirely separate product developed

especially for the Macintosh environment. The two products can be used together. Data created by the SAS System can be transferred into JMP tables in raw text form or a transport file.

Conclusions. Overall, JMP is a well-designed program for analyzing data "in as graphical a way as possible" as stated in the program's goal. Both a person entering into the field of statistical analysis and a more experienced scientist working in this field will benefit from this program.

REFERENCES AND NOTES

- (1) The program is available from SAS Institute Inc., JMP Sales Department, SAS Campus Drive, Cary, NC 27513-2414. Phone: (919)677-8000; FAX: (919)677-8166. The price of the program is \$695.00 for corporate customers and \$347.50 for academic customers with discounts available for users purchasing multiple copies. A student version of JMP Version 1 called JMP IN with complete documentation is available at \$39.95 per copy.
- (2) One of the data tables (COWBOY HAT) for the *Spin* tutorial (p 14 of the Introductory Guide) is missing. There are numerous typographical errors and mistakes in the manuals.
- (3) The model may be saved and later retrieved using *Get Model* and *Save Model* on the *Specify Model* dialogue. The model is saved in an ordinary text file, which can be edited with any text editor.
- (4) The used data sets were from the following published papers: Figure 1, Compadre, C. M.; Hansch, C.; Klein, T. E.; Langridge, R. *Biochim. Biophys. Acta*, **1990**, *1038*, 158; Figure 2, Hansch, C.; Clayton, J. M. *J. Pharm. Sci.* **1973**, *62*, 1; and Figure 3, Kubinyi, H. *J. Med. Chem.* **1977**, *5*, 625.
- (5) The cost of the training course depends on the number of trainees.
- (6) (a) Lach, E. *Info World* **1989**, *11*, 76. (b) Norr, H. *MacWEEK* **1989**, *3*, 6. (c) Ferranti, M. *PC Week* **1989**, *6*, 23. (d) Ferranti, M. *PC Week* **1989**, *6*, 45. (e) Dunn, N. E. *Macworld* **1989**, *6*, 113. (f) Andres, C. *MacWEEK* **1990**, *4*, 39. (g) Seiter, C. *Macworld* **1990**, *7*, 210. (h) Schwartz, S. *Macworld* **1990**, *7*, 375. (i) Levine, M. *MacUser* **1990**, *6*, 114. (j) Fridlund, A. J. *Info World* **1990**, *12*, S1. (k) Waltz, M. *MacWEEK* **1991**, *5*, 21. (l) Custor, L. *MacWEEK* **1991**, *5*, 85.

Pro-Search: Easy Online Information Retrieval for DIALOG

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Pro-Search¹ is a software package designed to aid in searching and retrieving information from DIALOG databases. The program requires an Apple Macintosh with at least 1 MB of memory using System 6.0.2 or higher, a hard drive, and a Hayes or 100% compatible modem at a 300-, 1200-, or 2400-baud rate. A subscription to DIALOG with an account number and password is also required. Pro-Search allows the user to do the following:

- (i) Reduce online searching costs by constructing searches offline.
- (ii) Save frequently used search requests on disk.
- (iii) Keep track of online charges with the accounting feature.
- (iv) Undertake searches with user-friendly Pro-Search DIALOG windows in place of the DIALOG commands searches.
- (v) Access database information by viewing DIALOG bluesheets on disk.

An experienced searcher can use DIALOG command language with Pro-Search acting as a direct interface to DIALOG, in the Command Search mode. The novice or occasional user will be better served with the Pro-Search Easy Search mode, using Macintosh dialog boxes.

INSTALLATION

Pro-Search is easily installed. A number of mouse-driven menus need to be set with the baud rate, phone number, user number, password, etc. Once entered, these settings are recorded and a DIALOG connection can be set up without manually having to go through the DIALOG logging-on procedure. Permanent preferences such as saving all accounting figures can be set in the preference window. An online status window indicates whether Pro-Search is online to DIALOG, whether the accounting feature is enabled, and whether the file capture feature is activated.

CONDUCTING A SEARCH

(1) Selecting the Appropriate Database. DIALOG is divided into numerous separate databases, ranging from Chemical Abstracts to Linguistics and language behavior abstracts. The first step in conducting a search is to find the appropriate database. Pro-Search greatly simplifies this procedure, in the Easy Search mode. The database can be selected in three ways.

- (i) A primary subject pop-up menu presents 20 primary subject choices; some of the options are Chemistry, Computers,

Earth Science, Education, Engineering, Life Science, Medicine, and Physical Sciences. Once the primary subject has been chosen a secondary subject pop-up menu displays subcategories of the chosen subject. There are 13 subcategories for Chemistry as the primary subject, e.g., Analytical Chemistry, General Chemistry, and Chemical Engineering. Having chosen a subcategory, all the databases relevant to that subcategory are displayed, by double clicking on the databases of interest they will be selected for the search. One or more databases can be chosen in one or more subcategories. This method of choosing databases is useful when the databases that will be used are unknown.

(ii) Often the same database is used so frequently that the user remembers the database file number (e.g., Chemistry Abstracts = 399), in this case the database can be selected by number.

(iii) If the name of the database is known it can be selected by choosing the database by text.

(2) **Searching.** After selecting one or more databases a search for the topic of interest needs to be set up.

(i) *Formulating a Search.* A very useful feature of the Easy Search mode in Pro-Search is the ease with which a search can be formulated. None of the DIALOG abbreviations are needed, the Pro-Search search formulation is completely menu driven and very lucid. Simple searches using two search terms and a pop-up operator expressing the relationship between the two search terms are used. The simple search is easy to use and well described in the manual. It involves entering the terms or topics of interest and choosing the appropriate operators (and, or, to, with, near, etc.) connecting the terms from a rollover menu. For example, a search for infrared spectroelectrochemistry articles in the chemical literature can be conducted by searching for the term "infrared" and the term 'spectroelectrochem?' connected by the operator 'and'. The records that match the search statement form a set. By combining sets, the number of search terms and the complexity of the search can be expanded. The search can be (it need not be) further refined by using the Index and Limit options. Searching specific indexes can be very useful. If one were interested in obtaining a list of all the journals dealing with computational chemistry, a search for computational chemistry in the chemistry databases will turn up a large number of hits, most of them irrelevant. By searching only the journal name index this problem is eliminated. Formatting a search to cover specific indexes is easily done by choosing the databases to be searched and selecting the index of interest from a rollover menu. Some of the indexes available for the Chemical Abstract database are author, citation, CAS Registry Number, journal name, and patent number. Once again Pro-Search has greatly simplified the procedure, and the DIALOG abbreviations, such as 's au =' need not be remembered. The search can be limited in a similar fashion. Commonly used limits that can be selected from a rollover menu are publication year, English language, and nonpatent records.

(ii) *Retrieving Information from a Search.* Before the connection to DIALOG is established and the actual search is undertaken, the desired format of the output has to be selected. Without Pro-Search, this can be a tedious process since each database has its own format statements. In the Pro-Search Easy Search mode the different formats can be selected from a rollover menu, for example, in Chemical Abstracts the following formats are available: DIALOG accession number, bibliographical citation and keywords, bibliographical citation, full record and tagged fields, full records, title and journal reference, title and keywords, and title. The retrieve menu also enables the user to sort the output alphabetically or chronologically. After the database has been

selected, the search formulated, and the output formatted, the search can be undertaken. Once again this is simply a matter of clicking on the OK button on the retrieve menu. The retrieved records can be directly displayed or saved on disk.

BLUESHEETS

Pro-Search provides a convenient, condensed version of DIALOG's printed "bluesheets" on disk (723K). Both the DIALOG and Pro-Search bluesheets contain specific information about each database, including a brief description, connect costs, codes for search limiting terms, and sorting and retrieval format options; all of which may vary for each database. DIALOG's printed bluesheets are quite voluminous, taking up several 3-in. binders. Having the bluesheet information on disk while using Pro-Search is a convenient and time-saving feature.

The bluesheet access in Pro-Search is most useful while in the Command mode, since Pro-Search makes it almost unnecessary for users to know the limiting, sorting, or format codes. In the Easy Search mode these are provided as pop-up menu options.

The Pro-Search bluesheets are easily accessed, by text or by number, at any time before or during a search. This provides the information that is usually needed from a bluesheet quickly and easily, when and where it is needed. The limiting or sorting options available in the specific database may be reviewed while connected, if needed. The print format option codes may also be reviewed quickly before printing. This is especially useful when information is found in a database with which the user is unfamiliar.

Experienced DIALOG users will find the quick access to the bluesheets on disk a plus, without the large volumes of expensive hard copies and the monthly updates sent in DIALOG's *Chronolog*. The Pro-Search bluesheets are updated quarterly at an individual cost of \$50 or annually at \$150.

CONCLUSION

The greatest advantage of using DIALOG with Pro-Search, in the Easy Search mode, is that it greatly simplifies the process of searching the DIALOG databases. The need to remember or to look up all the DIALOG commands no longer exists, they have all been incorporated in easy-to-use rollover and pop-up menus. This is particularly useful for the novice user or when searching through new databases. The ability to construct searches offline is also extremely useful and cost effective. A minor irritation is the fact that Pro-Search automatically connects to the modem when opened, needlessly tying up the modem.

The manual is easy to use; however, I am not sure how simple it would be to someone totally unfamiliar to DIALOG. A very basic flowchart or overview on how to conduct a search would be useful. This is a very minor flaw as the program is fairly self-explanatory. The first searches I conducted were successful without having to resort to the manual, and there was not much cause for cursing. Pro-Search is certainly an easy online retrieval system for using DIALOG in the Easy Search mode. In the Command Search mode, Pro-Search provides the experienced DIALOG user with the ability to perform searches as usual, but with the added benefits of automatic logon and bluesheets on disk.

REFERENCES AND NOTES

- (1) Pro-search was written by Cyrus Ghalambor, Larry Rusinsky, and Brian Hall. It is distributed by Personal Bibliographical Software, Inc., P.O. Box 4250, Ann Arbor, MI 48106. The full program lists at \$495.00, the annual bluesheet subscription service is \$150.00, and the latest set of bluesheets can be purchased for \$50.00.