


## Obtaining a Contour Map from Multifiles or 3-D data in DataMax

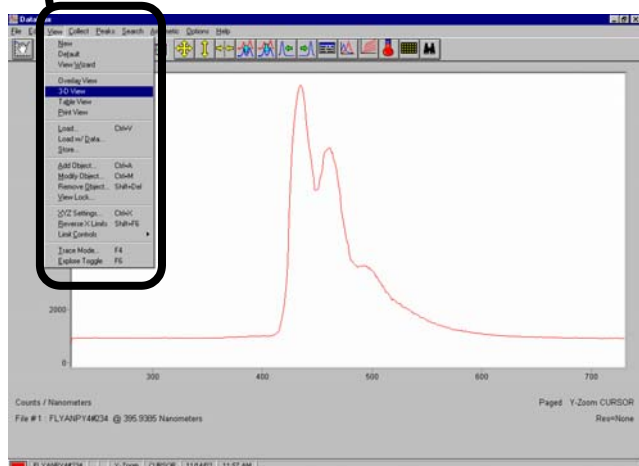
### Introduction

DataMax is the software used to display data from all SPEX® instruments. DataMax can present the measurements in many ways, including a *contour map*. A contour map displays multifiles or 3-D data, and looks much like a geographical map of heights above sea-level, or a meteorological plot of barometric pressures. *X* values are plotted on the horizontal axis, and *z* values are on the vertical axis. *Y* values use colors for contour depth, with darker colors for smaller *y* values. DataMax provides extra features, such as **Contours**, to change the number of contours; **Interpolation**, to add interpolated data along the *z*-axis; and **Map Contour Scale**, to show the level of contours.

### Experimental


A matrix scan (Figure 1, below) was run for the 3-D spectrum of a cocktail comprised of anthracene, perylene, and fluorescein. Following is a step-by-step procedure to present 3-D data as a contour map in DataMax.

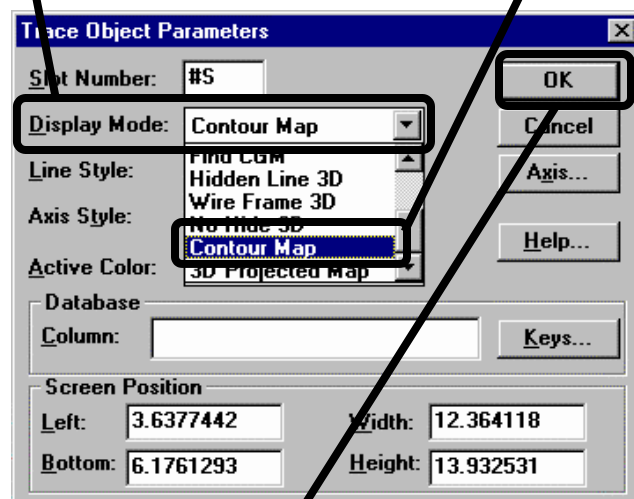
1. In the main screen, to see the data file as a 3-D image, left-click on **View**, and a drop-down menu opens. Left-click on **3-D View**, as in Figure 1. To see the graph, left-click on the  button.





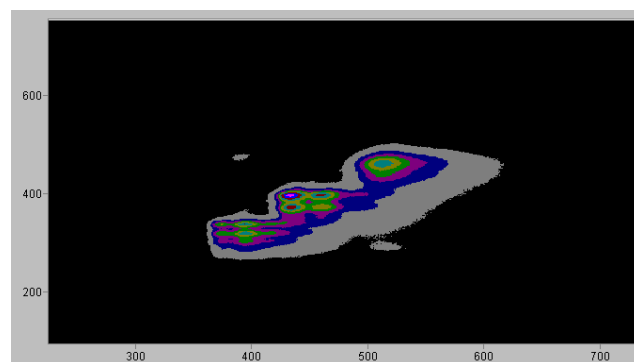
**Figure 1.** Initial view of matrix scan, showing fluorescence from a cocktail of anthracene, perylene, and fluorescein. The user already has opened the *View* drop-down menu.

Copyright © 2003 Jobin Yvon Inc.

2. With the mouse, right-click on the graph itself. This opens a menu. With the mouse, highlight, then left-click on **Edit Settings**.
 
3. When the **Trace Object Parameters** dialog box (below) appears, click on the down arrow next to **Display Mode**. Then find, highlight, and left-click on **Contour Map**.

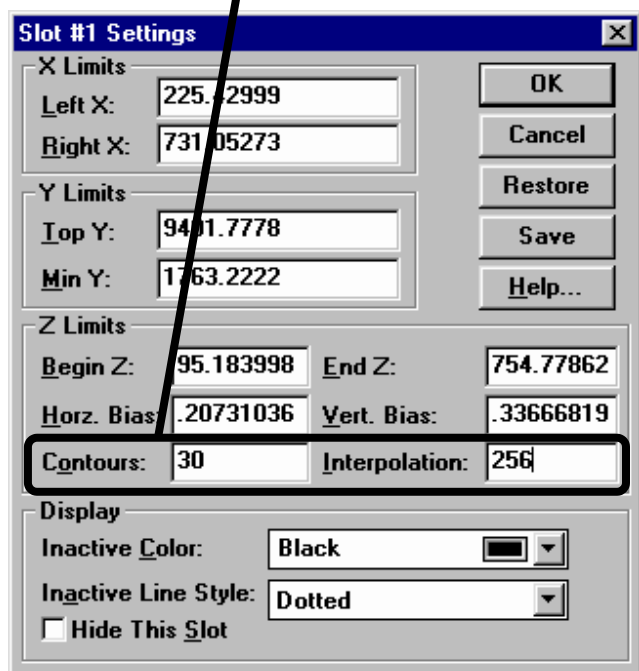


4. Click on the down arrow next to **Line Style**. Then find, highlight, and left-click on the option for **Special Colors**.
 
5. Click **OK**, then click . The contour map becomes the screen view, as shown below.

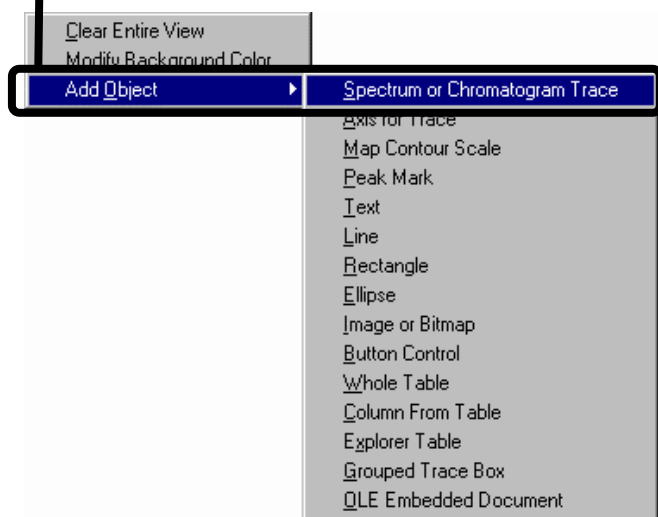


6. For an interpolated image of the contour map,

choose the View menu, and click on XYZ Settings. The **Slot #1 Settings** dialog box opens. In the Contours field, enter 30. In the Interpolation field, enter 256, 512, or 1024, whichever provides the desired image.

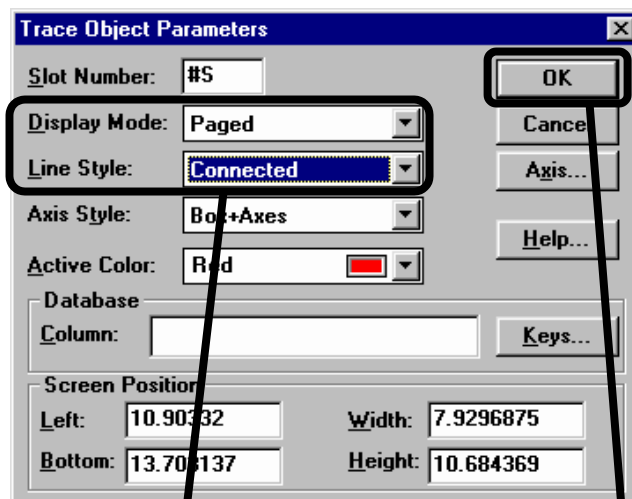


7. Next, show horizontal (emission spectrum) and vertical slices (excitation spectrum) along with the contour map. Left-click on the gray area outside the graph. A menu appears as below. Highlight Add Object, then highlight and left-click on Spectrum or Chromatogram Trace.



8. The arrow cursor becomes a ruler and hammer. Click, hold down, and drag the cursor for the desired graph size. When you lift the cursor, the

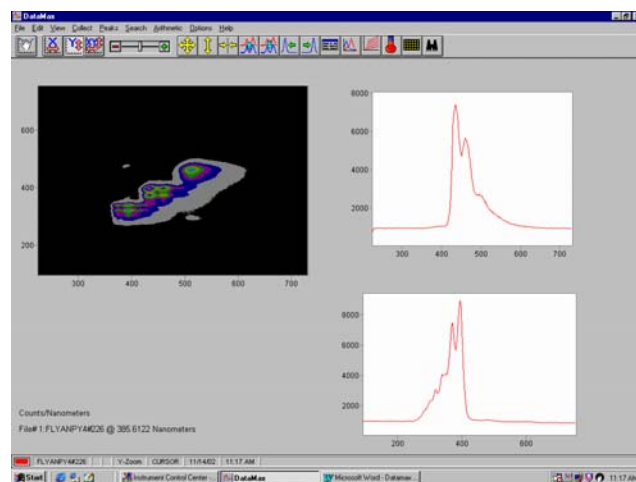
**Trace Object Parameters** dialog box appears:



9. In the Display Mode field, highlight and click on Paged. In the Line Style field, highlight and click on Connected. Click OK. The new graph is the horizontal slice of the contour map.
10. Repeat step 5. In the Display Mode field, highlight and click on Extract CGM. In the Line Style field, highlight and click on Connected. Then click OK. The new graph is the vertical slice of the contour map.
11. Left-click the desired point on the Contour Map with the arrow cursor to change the horizontal slice. Double-click the desired point on the Contour Map with the arrow cursor to change the vertical slice. To maximize the views of these slices, left-click inside the graph,

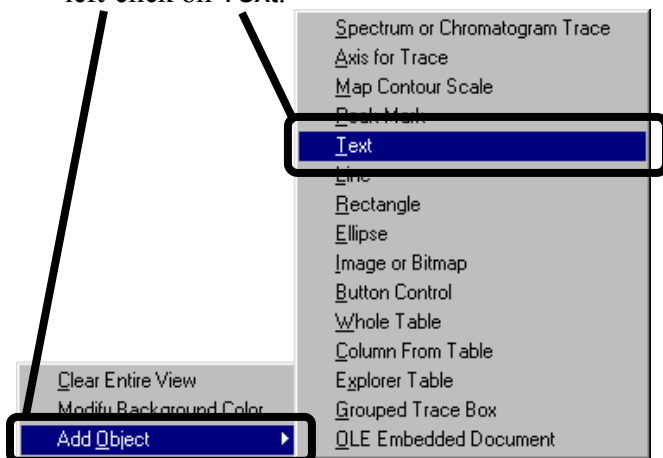


and click (Figure 2)

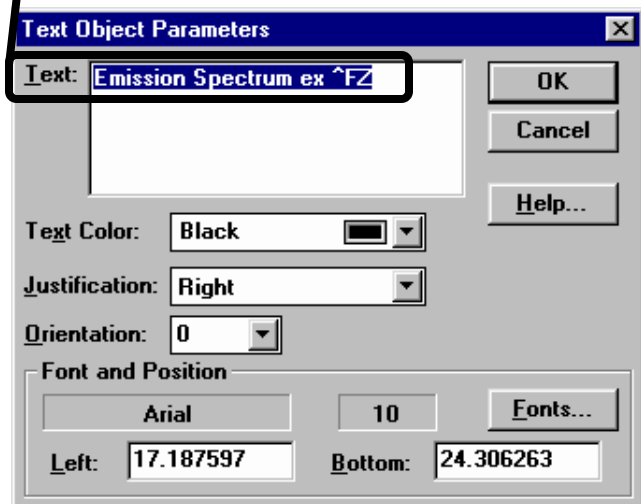


**Figure 2.** Contour map of cocktail fluorescence, before adding labels.

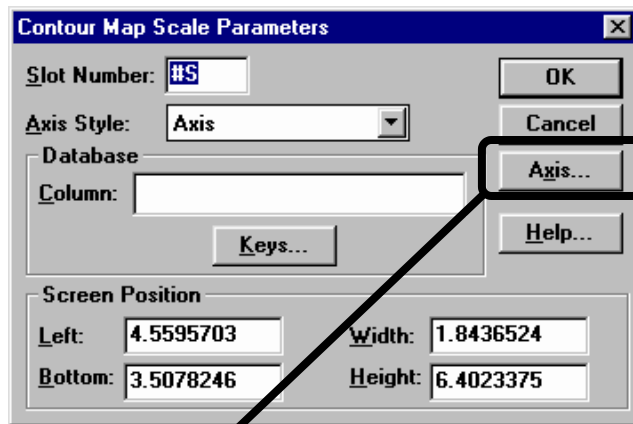
12. Next, label the graphs to show which excitation or emission wavelength is shown in the slices. Right-click on the gray area outside the graphs. A menu appears. Highlight Add Object, and left-click on Text.



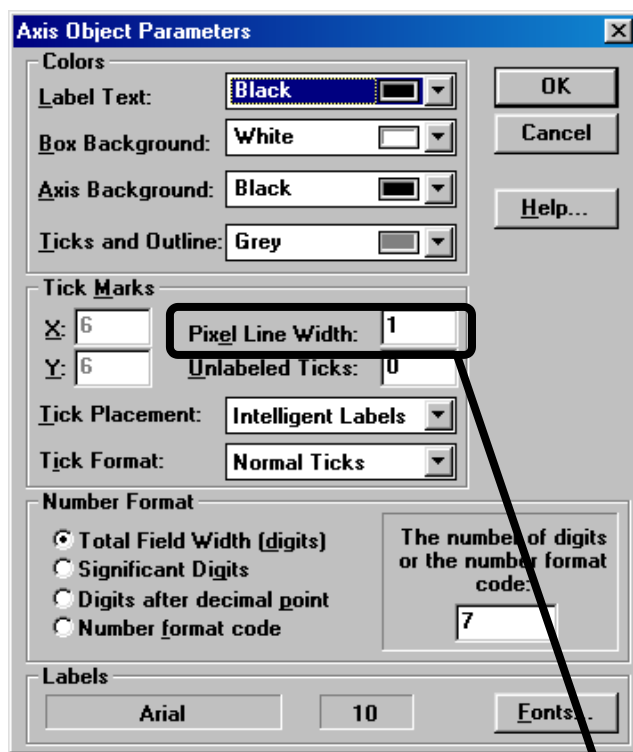
12. The arrow cursor becomes an A. Move the cursor to the label's desired location. The **Text Object Parameters** dialog box opens. For the horizontal slice, type Emission Spectrum ex ^FZ . Create another text box, and type for the vertical slice Excitation Spectrum em @ ^EX .



13. Next, add a scale for the contour map. Left-click on the gray area outside of the graphs. Highlight Add Object, and then highlight and left click on Map Contour Scale. The arrow cursor becomes a ruler and hammer. Left-click, hold down, and drag the cursor to the desired shape of the scale. The **Contour Maps Scale Parameters** dialog box opens (see top of the next column):



Click Axis.... The **Axis Object Parameters** dialog box appears:



15. Most defaults do not need to be changed. You may, however, adjust the width of the ticks by changing the number in the Pixel Line Width field. Click OK near the upper right corner of the dialog box.

16. The finished graph should look like Figure 3 on the next page.

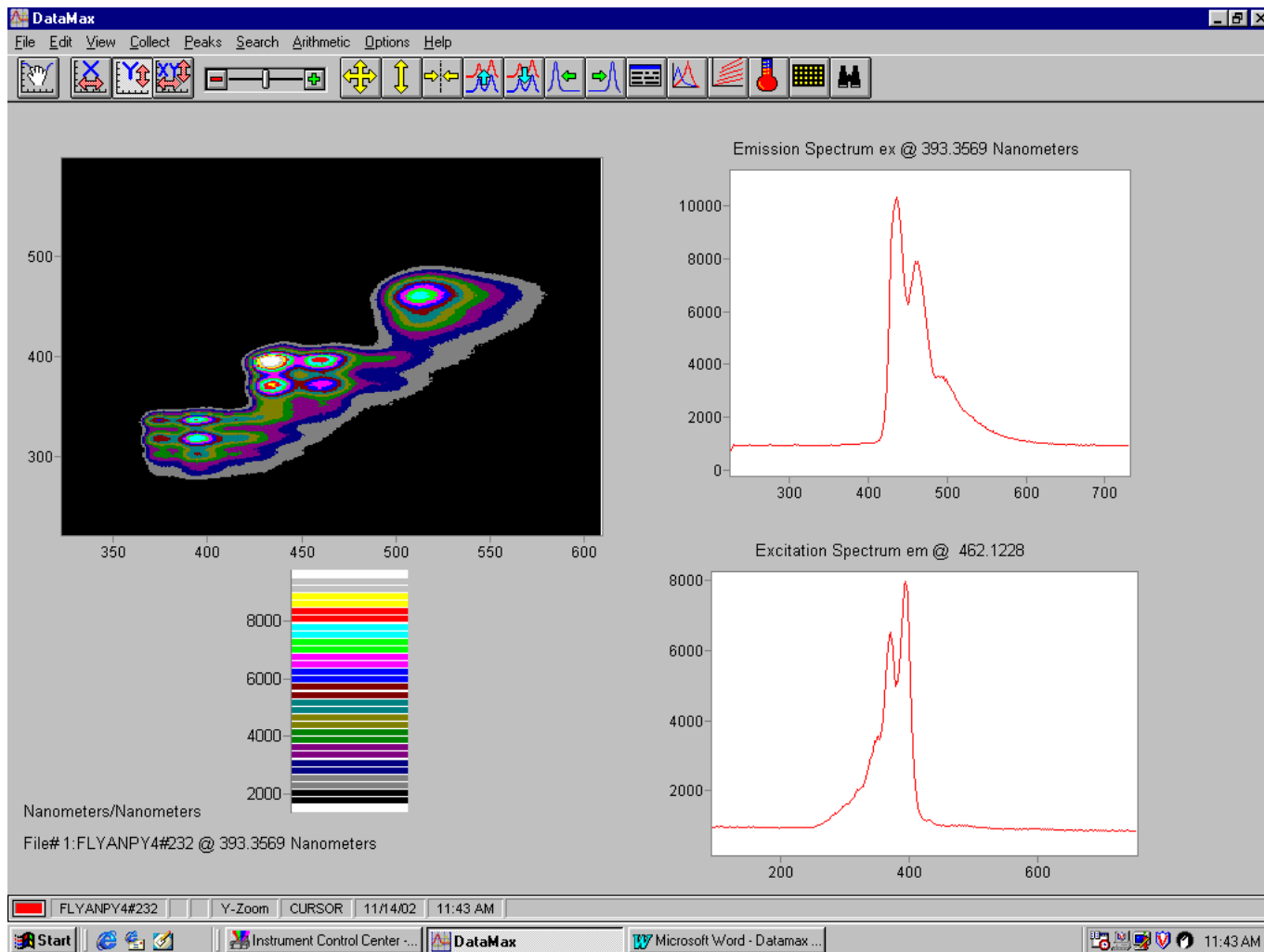


Figure 3. Finished appearance of contour map, with labels and color scale.

**In the USA:**

Jobin Yvon Inc.  
 3880 Park Avenue, Edison, NJ 08820  
 Tel: 1-732-494-8660  
 Fax: 1-732-549-5157  
 E-Mail: [fluorescence@jyhoriba.com](mailto:fluorescence@jyhoriba.com)  
**1-800-533-5946**

**In France:**

16-18, rue du Canal  
 91165 Longjumeau cedex  
 Tel: (33) 1/64.54.13.00  
 Fax: (33) 1/69.09.93.19

**Japan:** (81) 3/5823.0140

**China:** (0086) 10-68492216  
**Germany:** (49) 89/46.23.17-0  
**Italy:** (39) 2/57.60.47.62  
**U.K.:** (44) 20 8204 8142

