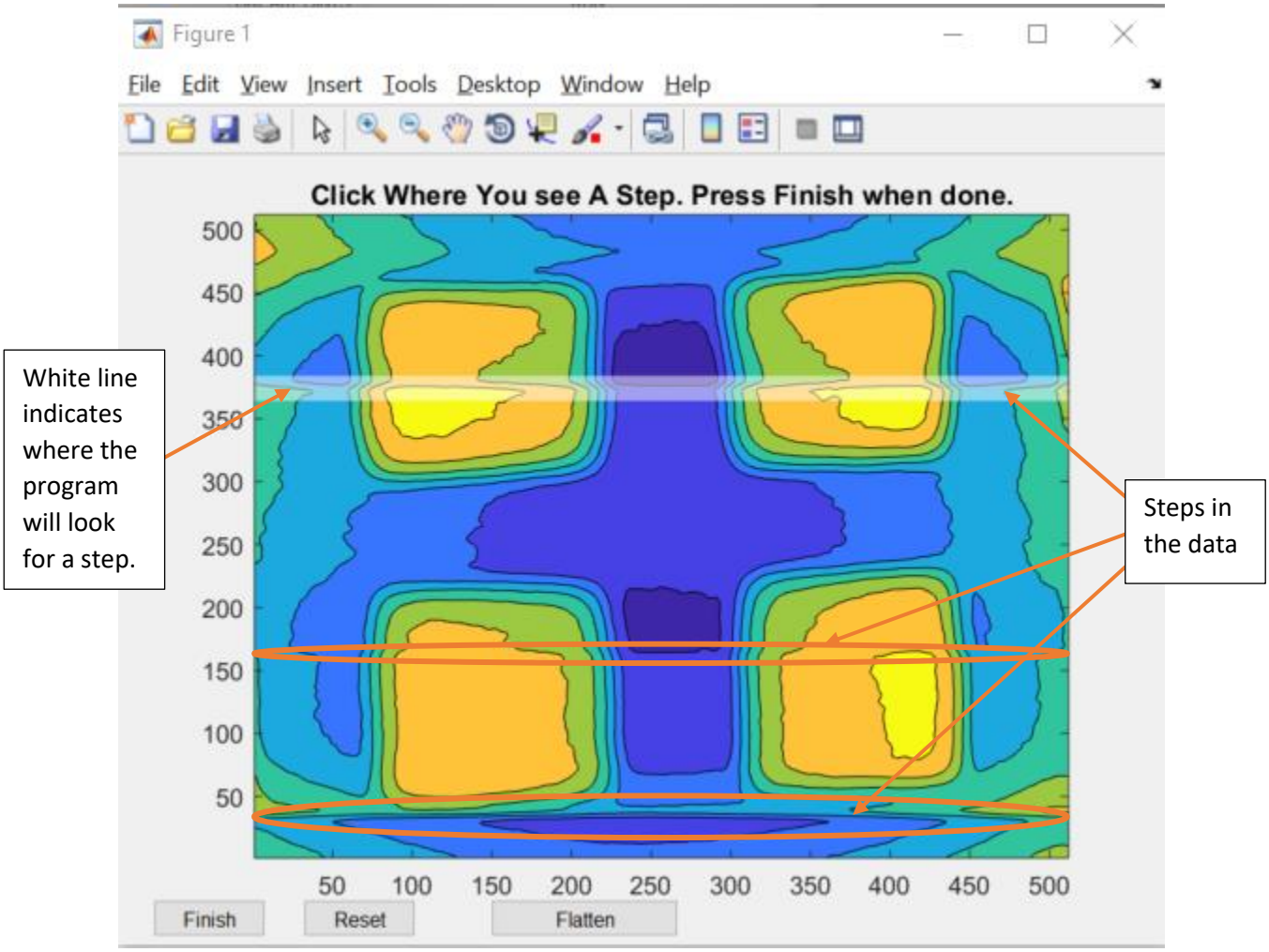
Step Reduce Procedure

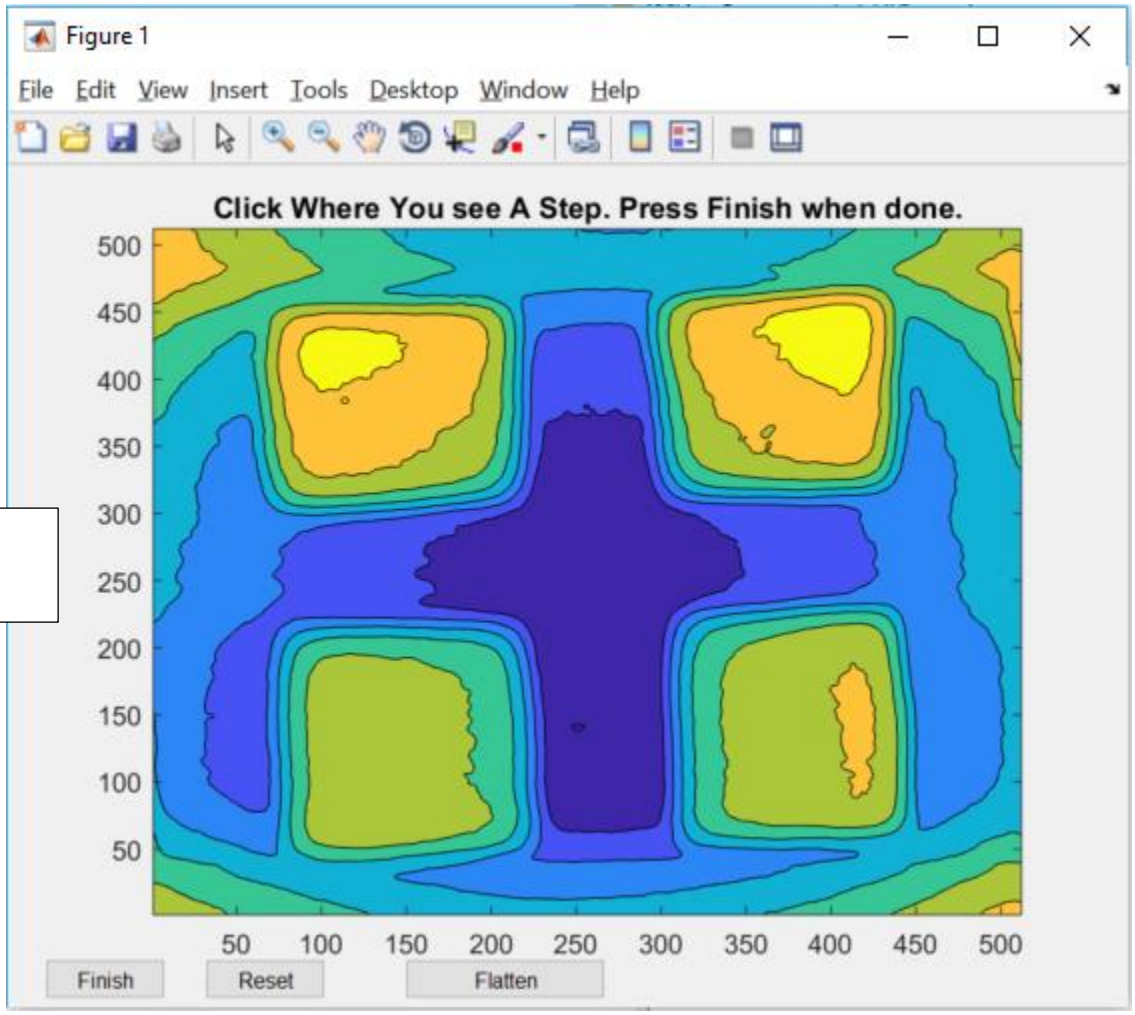
1. Make sure the following files are all in the same folder: **StepReduce_V3.m, buttonDown.m, finishButton.m, mouseMove.m, reduceBackground.m**, **resetButton.m** and the excel files you want to reduce.
2. Open **StepReduce_V3.m** and **Run** in MATLAB.

3. Double-click the excel file you want to fix.
4. Enter the region in the excel file you want to use. Include single quotes around the region. 'A2:SR513' is typical
5. Use the mouse to click wherever a step is seen. The steps look like horizontal lines that go across the entire image.



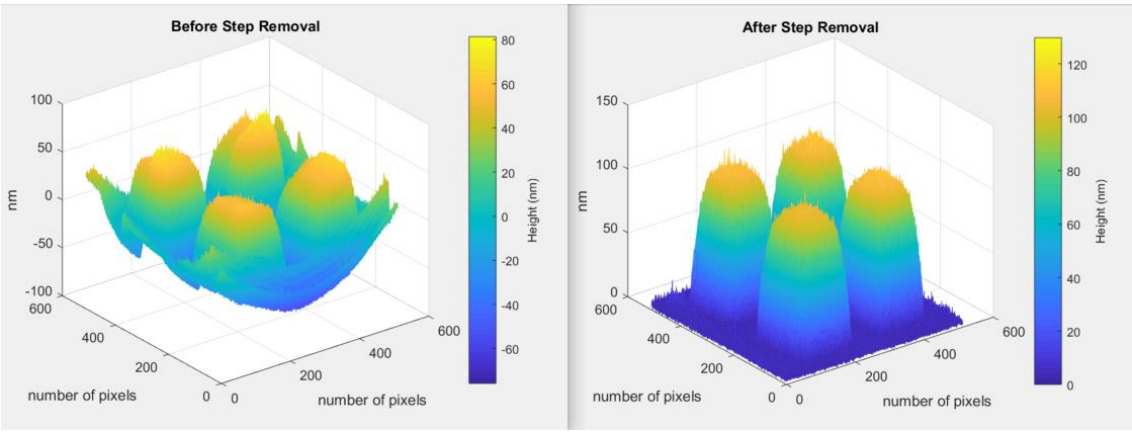
6. When all the steps have been removed, press the Flatten button.

All Steps have been removed



7. If you are happy, press Finish. If not, press Reset and go back to step 5.
8. Type 0 if you want to change the scale bar on the before image or 1 if not.
9. Type the choice of mesh coloration you want. (default is the same blue -> yellow scale shown above.
10. Type 0 if you want to change the scale bar on the after image or 1 if not

11. Type 0 if you are happy with the reduction. If you type 0, the file will be save in the active folder with the same name as the original data file with _REDUCED on the end of the file name. Below is an example of a properly reduced spectra. If you are unhappy with the reduction, check the troubleshooting section below.



Troubleshooting

Problem: The program cannot detect my step

Solution: Navigate to the 9th row of **buttonDown.m**. Enter a lower value for tHold. 1 is the suggested default value.

Problem: The program is identifying false steps.

Solution: Navigate to the 9th row of **buttonDown.m**. Enter a higher value for tHold. 1 is the suggested default value.

Problem: The program returns a weird result after pressing Flatten.

Solution: Navigate to the 10th and 11th rows of **reduceBackground.m**. Change numRows/2 to a value where you know the value should be 0. Repeat for numCols/2. The program assumes that there are no features in the center of the spectra.

Problem: An error is shown after trying to save the reduced data.

Solution: Open the task manager and find a process “Microsoft Excel” and end the task. Try the entire procedure again.

Written by Makena Dettmann in Spring 2018.