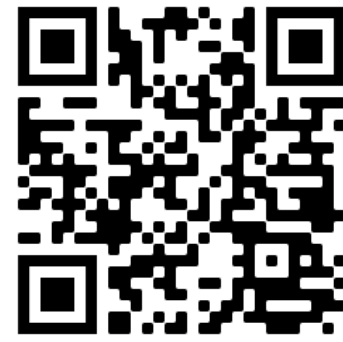


WISER - A Customizable, Extendable Visualization and Analysis Tool for Imaging Spectroscopy Data

*Joshua Garcia-Kimble¹, Rebecca N Greenberger¹, David R Thompson², Bethany L Ehlmann¹
¹California Institute of Technology, ²Jet Propulsion Laboratory, California Institute of Technology;
*Presenting author; wiser@caltech.edu

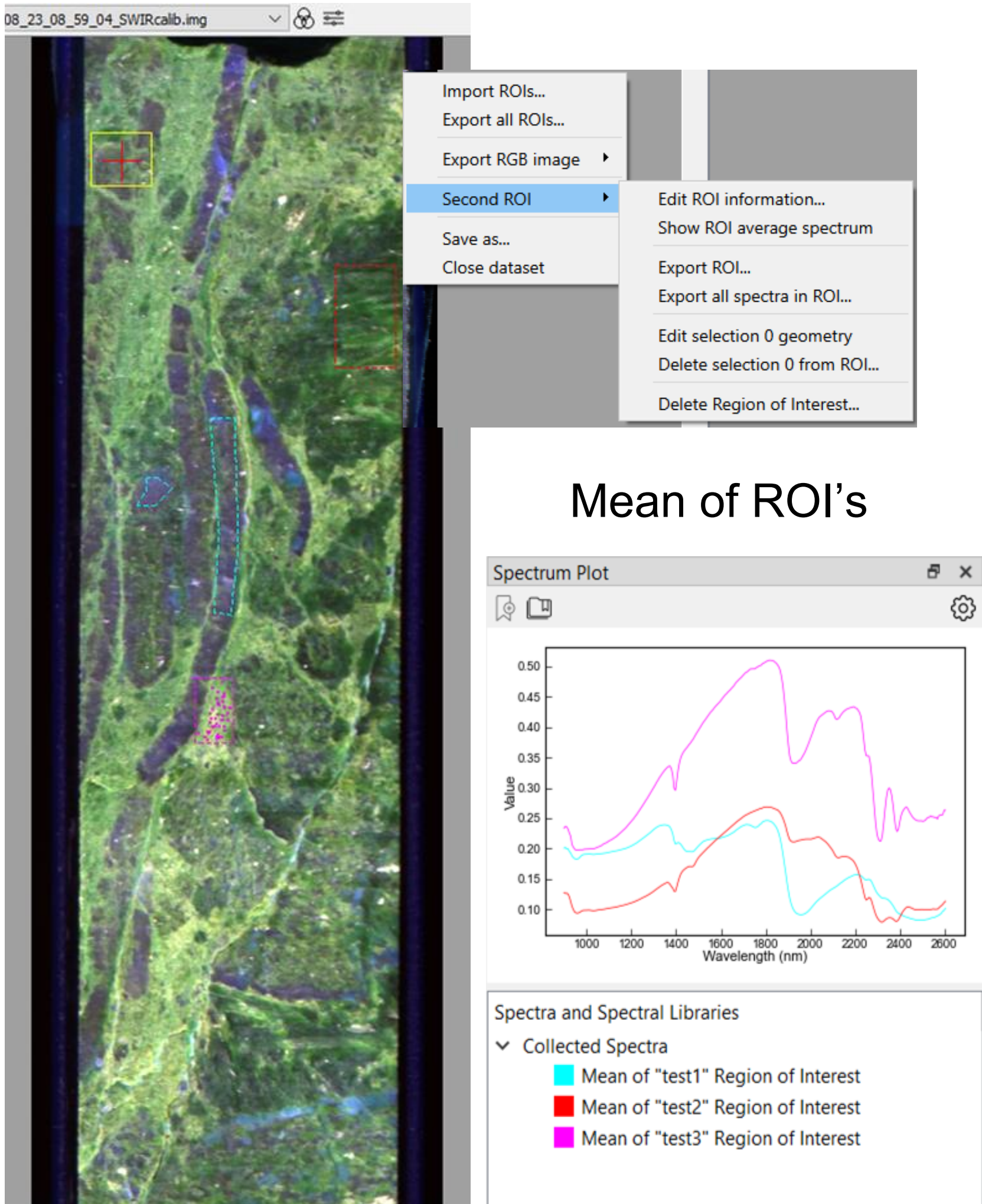
For more information or to download, please visit <http://wiser.caltech.edu>.



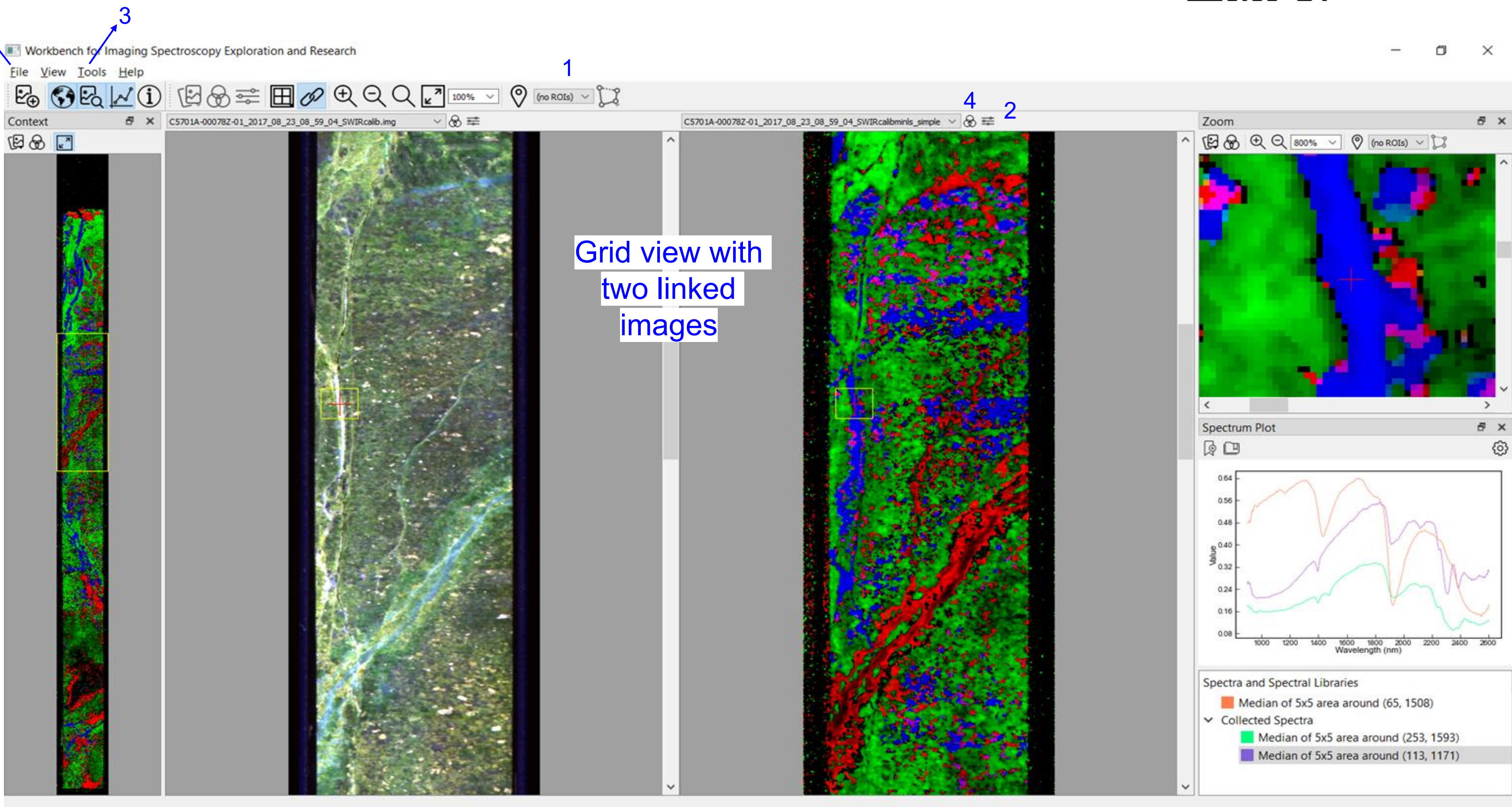
Motivation

- Imaging spectroscopy: Increasingly widespread in Earth, environmental, and planetary science but most image processing software is for 2D datasets with no spectral dimension
- We develop WISER, a non-commercial software with open-source plugins, to enable wider data use, facilitate visualization, and develop and share codebases for students and public without license fees

(1) Regions of interest (ROI)



(2) Custom stretch configuration

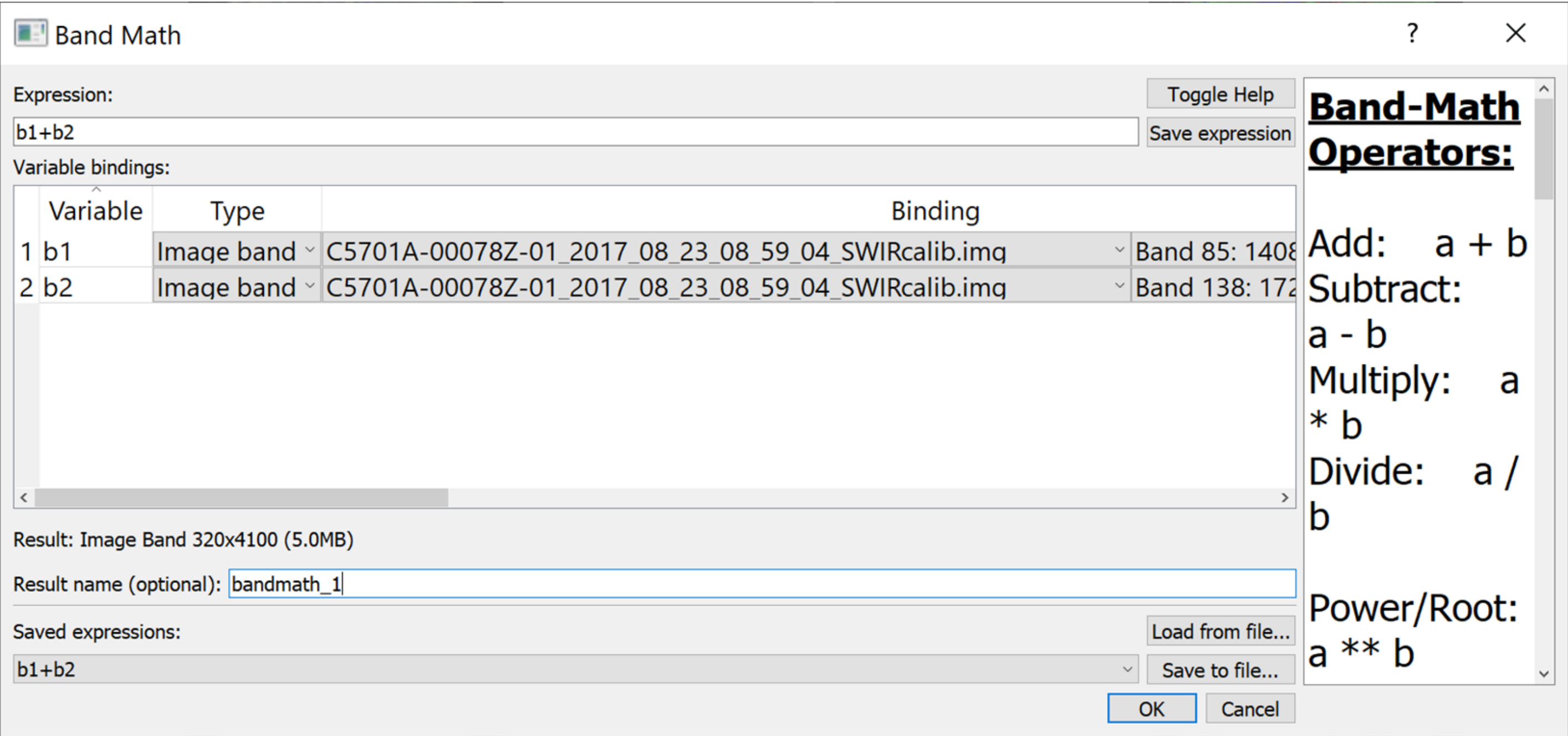


Custom, zoom, and plot windows can be moved, resized, and docked to customize the view.

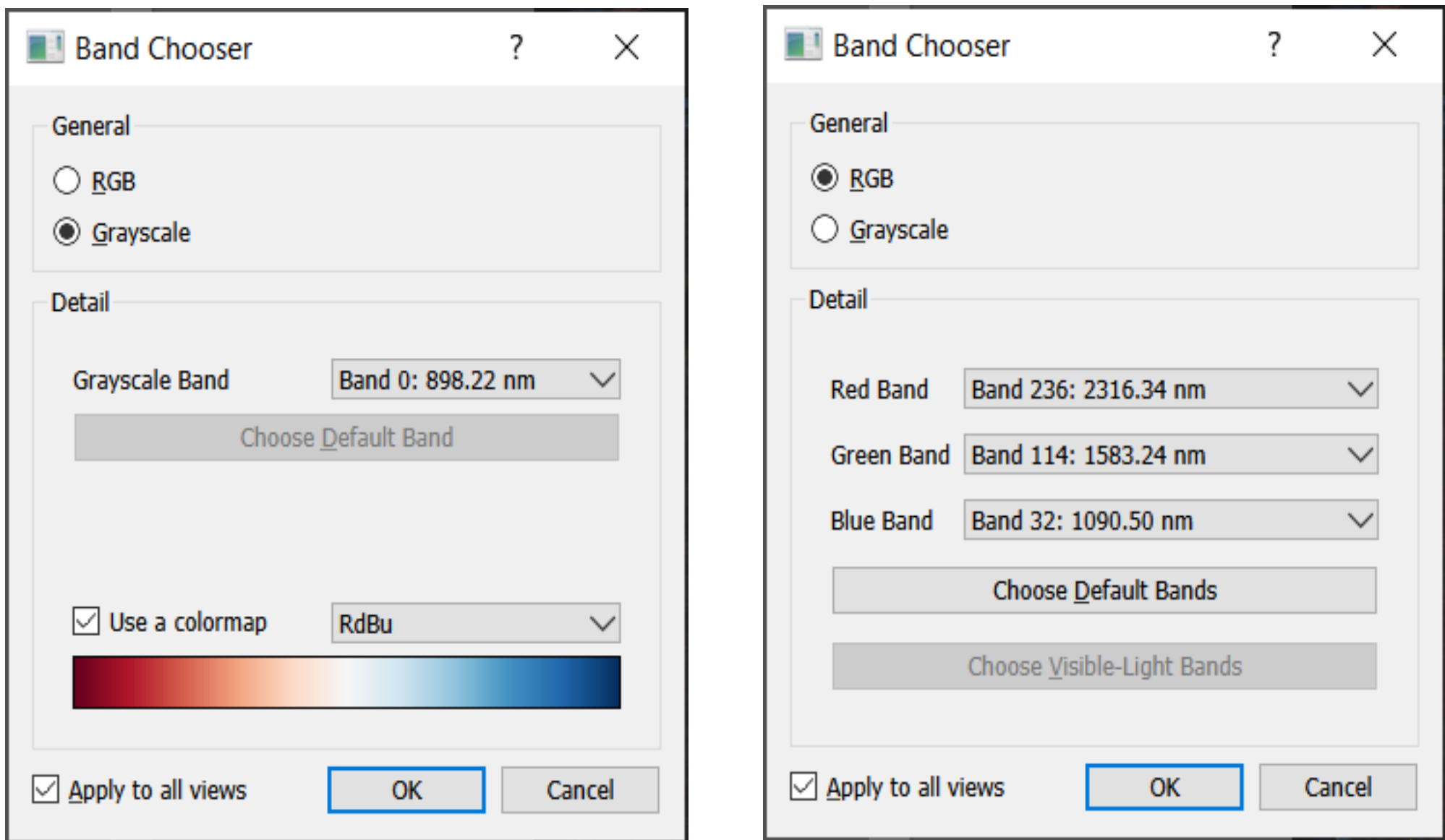
Workbench for Imaging Spectroscopy Exploration and Research (WISER)

- User-friendly, responsive interface for visually exploring imaging spectroscopy data, coupled with ability to do sophisticated operations
- Free for non-commercial users
- Implemented in Python 3; leverages Python libraries widely used in scientific computing
- Supports user-implemented plugins for integrating custom processing
 - Can expose graphical workflows
- Supports .img/.hdr, TIFF/Geotiff, netCDF, PDS 3/4, and JP2 files
- Support for display of and go-to geographic and projected coordinates

(3) Band math and Plugins



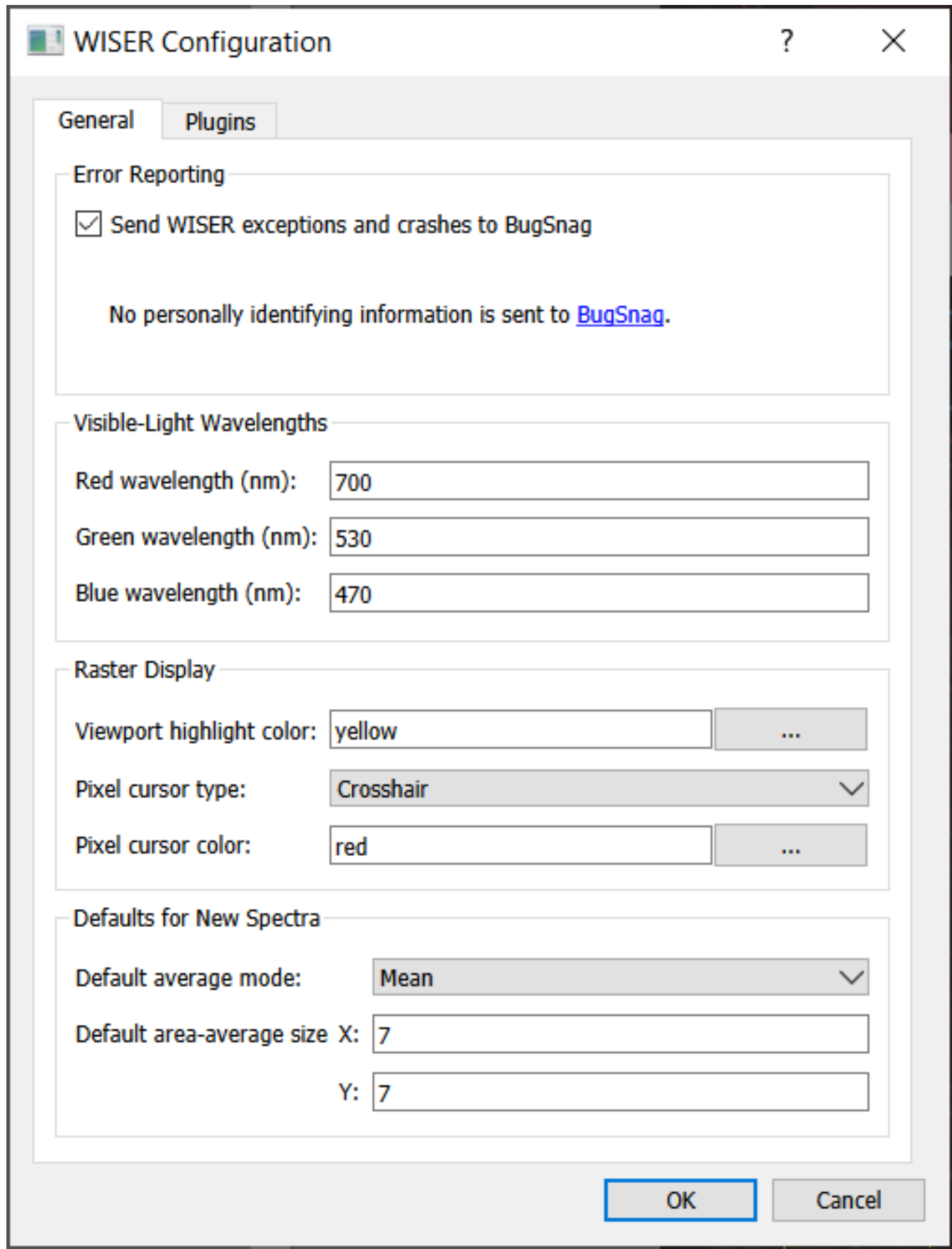
(4) Band chooser



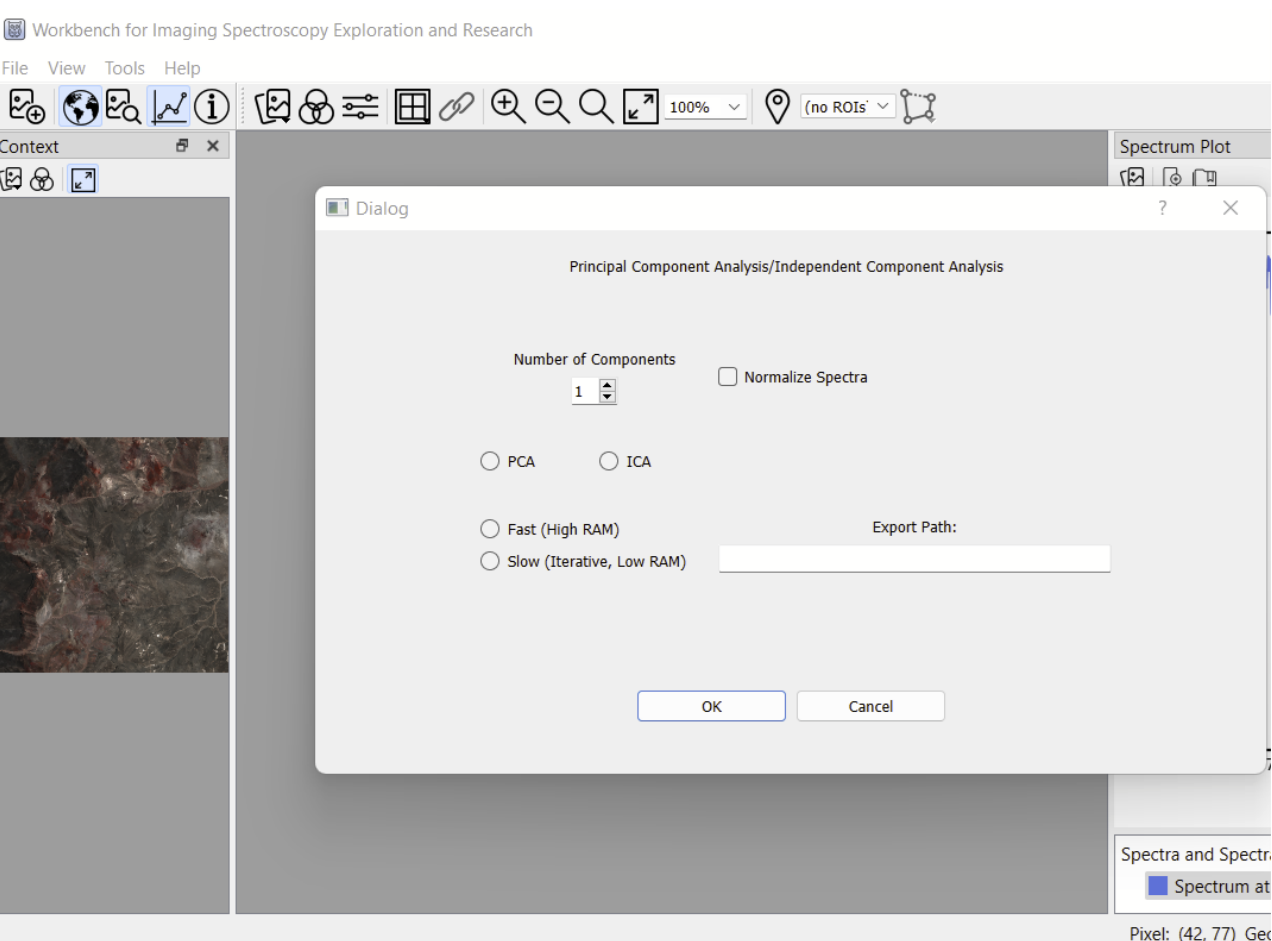
(5) Configuration

Set your own defaults! Point WISER at your own local plugins and libraries!

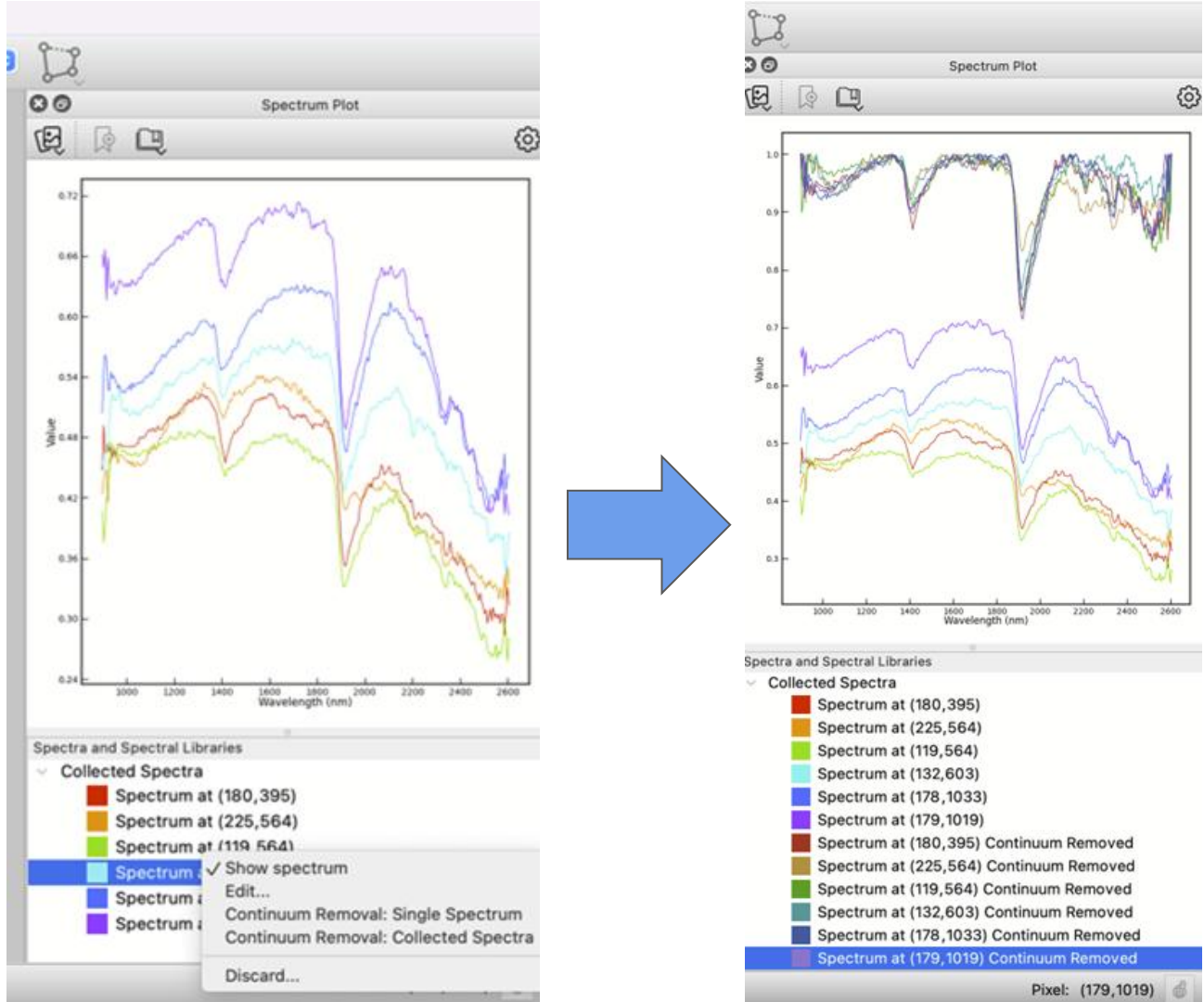
Sending bug reports is optional, but we really, really appreciate it to help us improve WISER!



User-developed Python plugins



The Principal Component Analysis plugin developed by S. Azad



The continuum removal plugin developed by A. Wang. This is now a permanent feature in WISER

- Expose plugins in context-menus, or in top-level application menu (Tools)
- Plugins may provide their own UI interactions as desired (Qt5/PySide2)
- Plugins can access and manipulate WISER application state
- Note: Our next release will have a fix for an issue that limits the Python libraries that can be used in plugins.

Open Sourcing Soon! (~November-December)

- Open sourcing will let users track WISER's development more closely and even contribute code
- We are looking for future contributors! If interested, email wiser@caltech.edu

Building a WISER Community

- Future webinars and workshops for using WISER and creating plugins
- More activity on WISER's Twitter and LinkedIn
- Future GitHub for sharing plugins
- We are looking for testers! Email wiser@caltech.edu if interested

Acknowledgments

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