

ASI Stable Stage

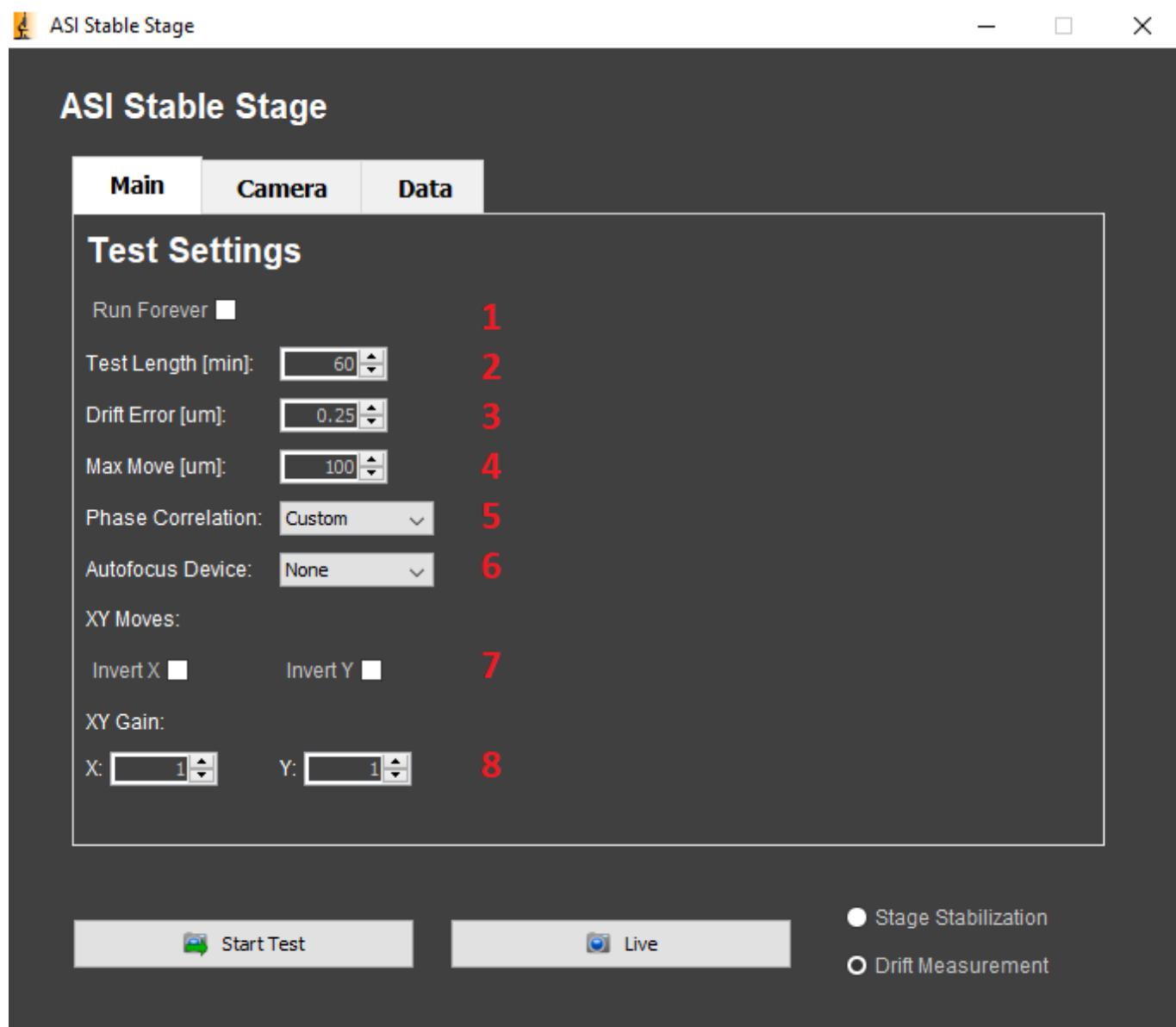
The ASI Stable Stage plugin can measure and correct thermal drift.

Requirements: Micro-Manager 2.0

Optional: CRISP or Autofocus3 (Note: Autofocus3 integration coming soon)

Send an email to brandon@asiimaging.com if you're interested in the plugin.

Controls



Main Tab:

1) Run Forever: Check this box if you would like to run the test indefinitely in Drift Measurement or Stage Stabilization mode.

2) Test Length: If you're not running the test indefinitely, then you can specify the number of minutes you would like the test to run.

3) Drift Error: The amount of drift in microns required for Stage Stabilization to attempt to correct the XY stage position.

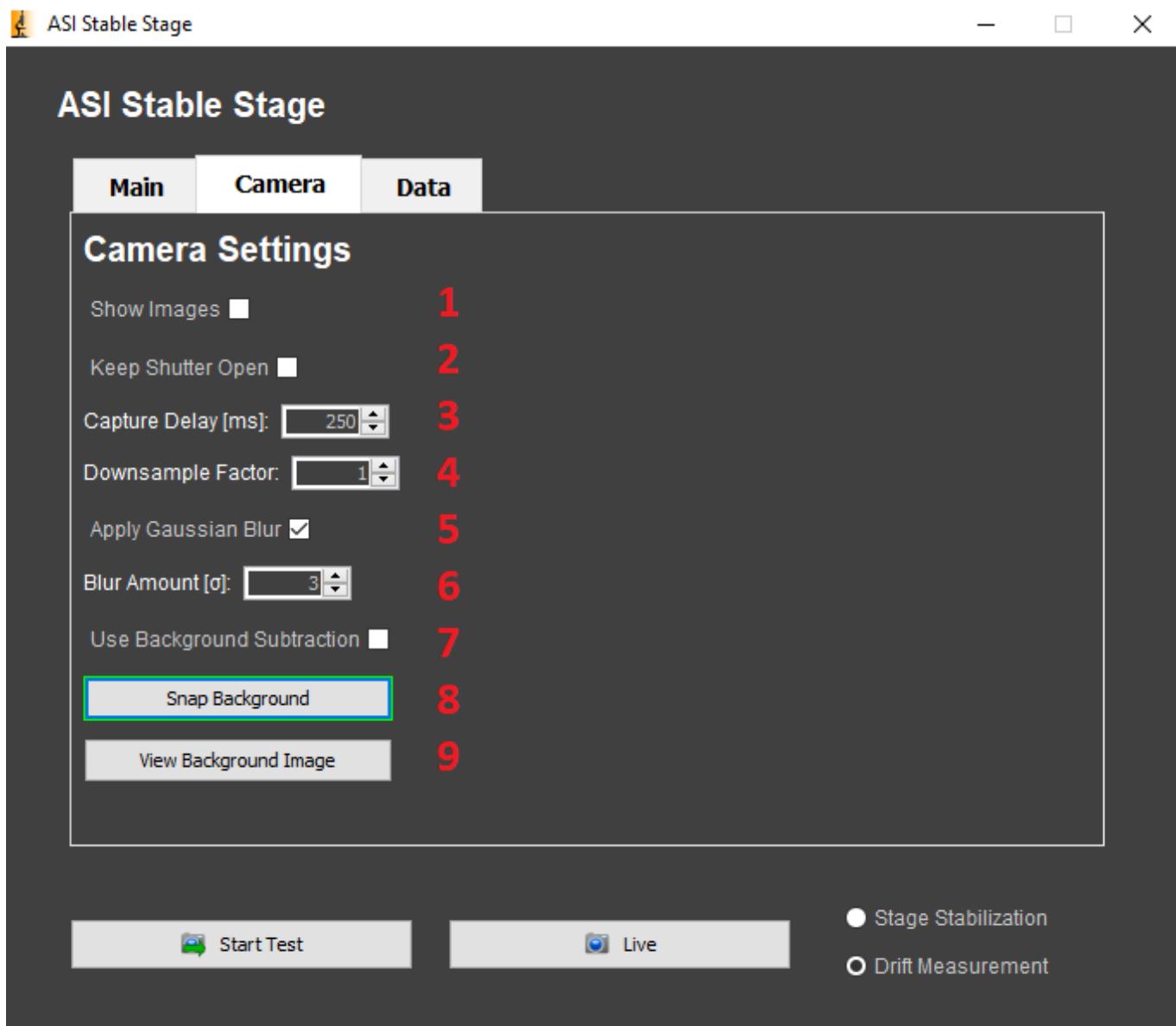
4) Max Move: The maximum amount that Stage Stabilization will move the stage in microns.

5) Phase Correlation: Which phase correlation algorithm to use for Stage Stabilization.

6) Autofocus Device: Which autofocus device to use for Stage Stabilization. Select None if no device available.

7) XY Moves: Invert the computed shift values in either the X or Y axes.

8) XY Gain: A multiplier to adjust the computed shift value.



Camera Tab:

1) Show Images: Check this box to show the phase correlation comparison images while running the test.

2) Keep Shutter Open: Keep the cameras shutter open during the test.

3) Capture Delay: The number of milliseconds to delay between each phase correlation comparison test.

4) Downsample Factor: The amount to downscale the camera images, this can increase performance significantly.

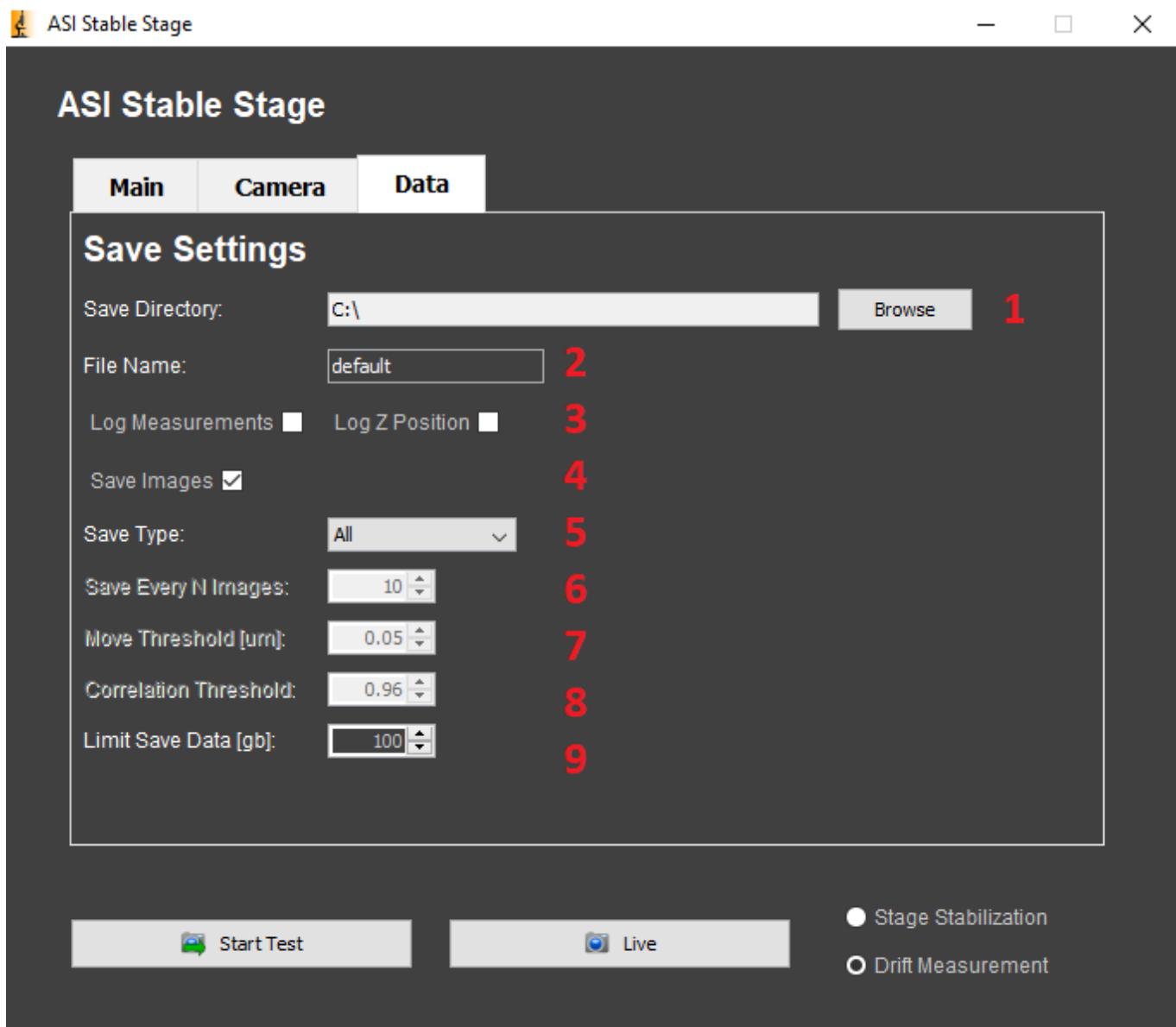
5) Apply Gaussian Blur: Apply a blur filter to the captured images, this setting is recommended.

6) Blur Amount: The amount of blur to apply to the images, the standard deviation of the Gaussian filter.

7) Use Background Subtraction: Check this box if you want to use background subtraction.

8) Snap Background Image: Snaps an image to use as the background subtraction image.

9) View Background Image: Opens a frame to view the captured background subtraction image.



Data Tab:

- 1) Save Directory:** The directory to save the images into.
- 2) File Name:** The file name prefix to save the logging data.
- 3) Logging:** Check these boxes to log information about XY moves and Z moves.
- 4) Save Images:** Check this box to save images into the save directory.
- 5) Save Type:** The criteria for saving images, the spinners below control the options for save types.
- 6) Save Every N Images:** This is always save the first image, and then every N images afterward.
- 7) Move Threshold:** Save the test image a move command above a certain threshold is sent to the controller.
- 8) Correlation Threshold:** Save the test image if the correlation coefficient of the comparison is below this threshold.
- 9) Limit Save Data:** The maximum amount of image data to save in a test run in gigabytes.

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