Objectives

1. Integrate a "Merge" button to streamline the interlace and merging process.
2. Refine the interlace function by eliminating unnecessary image stretching and ensure correct image processing order.
3. Resolve issues with output image behavior when performing multiple processes such as calibration, interlace, split, and merge.
4. Improve state management for reverting processes to maintain accurate image history.

Activities

1. Added an individual “Merge” button and function for interlace but encountered unusual output behavior, where the interlace output replaced parts with black pixels. It highlighted the need for split and merge before further processing.
2. Removed the stretch factor from the interlace function, allowing the interlace effect to apply without resizing the image, maintaining the original dimensions.
3. Observed a bug when reapplying calibration after performing interlace and split & merge. The output image was stuck in the interlaced state, even though the "Last Action" updated normally.
4. Attempted multiple solutions to resolve the state persistence issues:
    - Reimplemented state management, tracking interlaced image states and associated window information.
    - Removed energy output windows post-interlace without any effect.
    - Introduced an "interlaced" flag to save both pre- and post-interlace states, aiming to enhance revert transitions.
    - Updated process methods (`process axis`, `process InterlacedEnergySections`, and `processAndMergeImageParts`) to improve state tracking.
5. Printed the process stack and confirmed that even after multiple reverts, the interlaced state persisted.
6. Tested the revert function post-interlace, noting successful reversion to the original state unless the split & merge functions were applied.
7. Examined the Split & Merge function for state or storage issues but found no bugs.
8. Attempted to combine interlace and merge into a single function. However, this caused images to stitch without proper overlap, requiring further adjustments.

Achievements

1. Successfully identified and removed the unnecessary stretch factor from the interlace function, ensuring that interlace applies only at the original size.
2. Clarified the behavior of interlace, merge, split, and calibration sequences and their impact on image state, improving understanding for future troubleshooting.
3. Developed a workaround by temporarily reverting to the older process method, which enabled continued testing and refinement of the interlace and merge functions.

Problems & Solutions

- **Problem:** Black pixels appeared when adding the "Merge" function post-interlace, requiring a split & merge step before further processing.
    - **Solution:** Recognized the need to separate interlace and merge with a split step, to ensure parts are properly processed without unintended artifacts.
- **Problem:** Reverting from an interlaced image failed to reset to the original state if split & merge had been applied.
    - **Solution:** Attempted state management updates, flagging, and process tracking methods to control transitions but ultimately reverted to the older method. Future plans include combining interlace and merge functions for cohesive state handling.
- **Problem:** Split & Merge functions led to issues with the interlaced state, where the revert functionality did not restore the correct image.
    - **Solution:** Tested state-tracking modifications and will continue refining the merge process and image storage logic in upcoming sessions. Temporary measures ensure functionality until a complete solution is implemented.