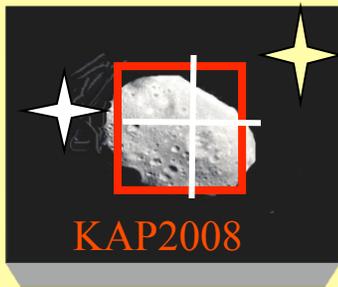


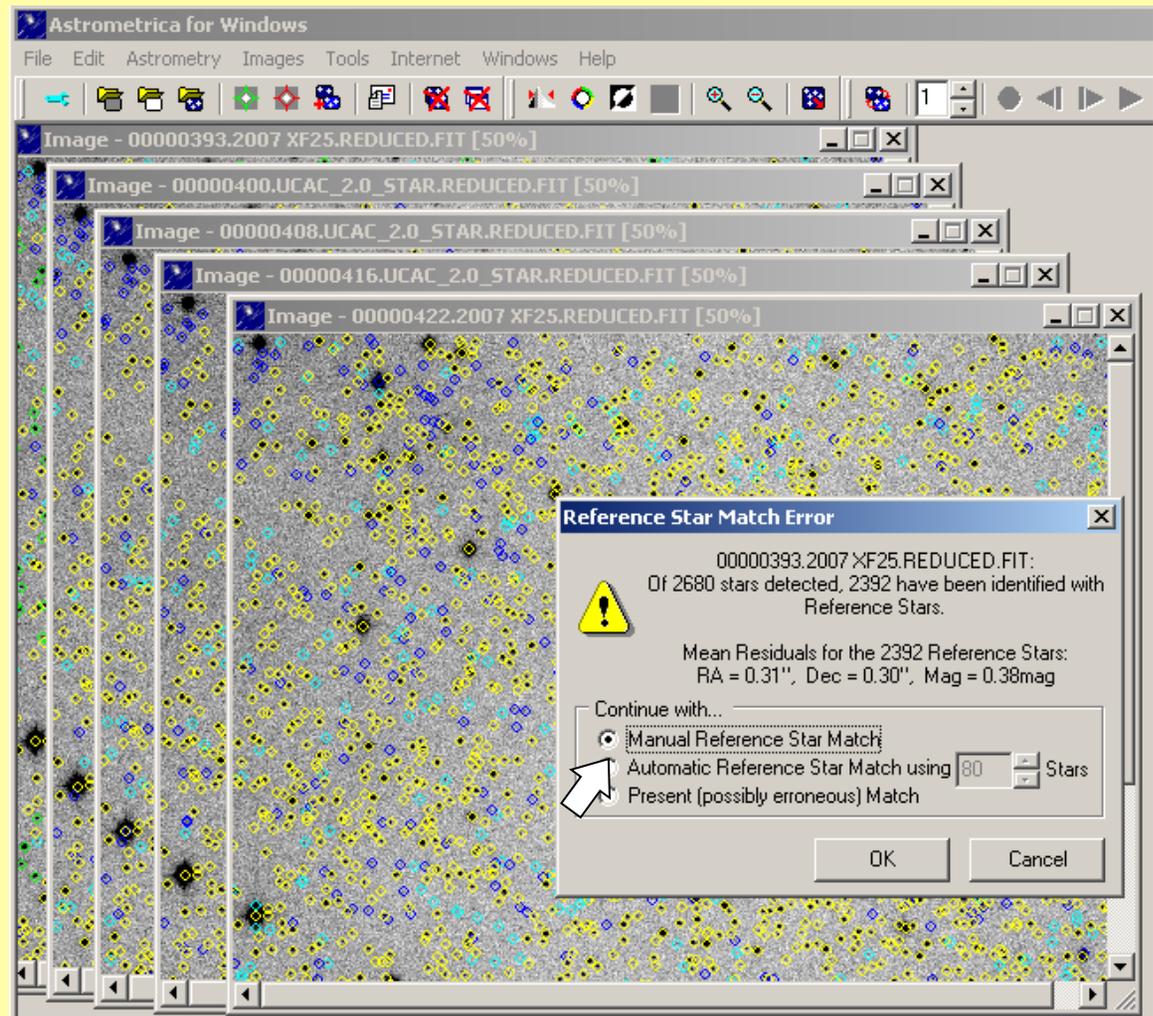
This Document describes what to
do when Astrometrica fails
Automatic Data Reduction

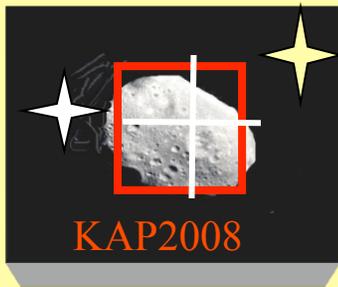


No Astrometric Solution?



- o Sometimes Astrometrica will fail to find an astrometric solution on the first try.
- o Check Automatic Reference Star Match using Stars, then click [OK]
- o If Astrometrica again fails to find a solution, try again with 160 stars.



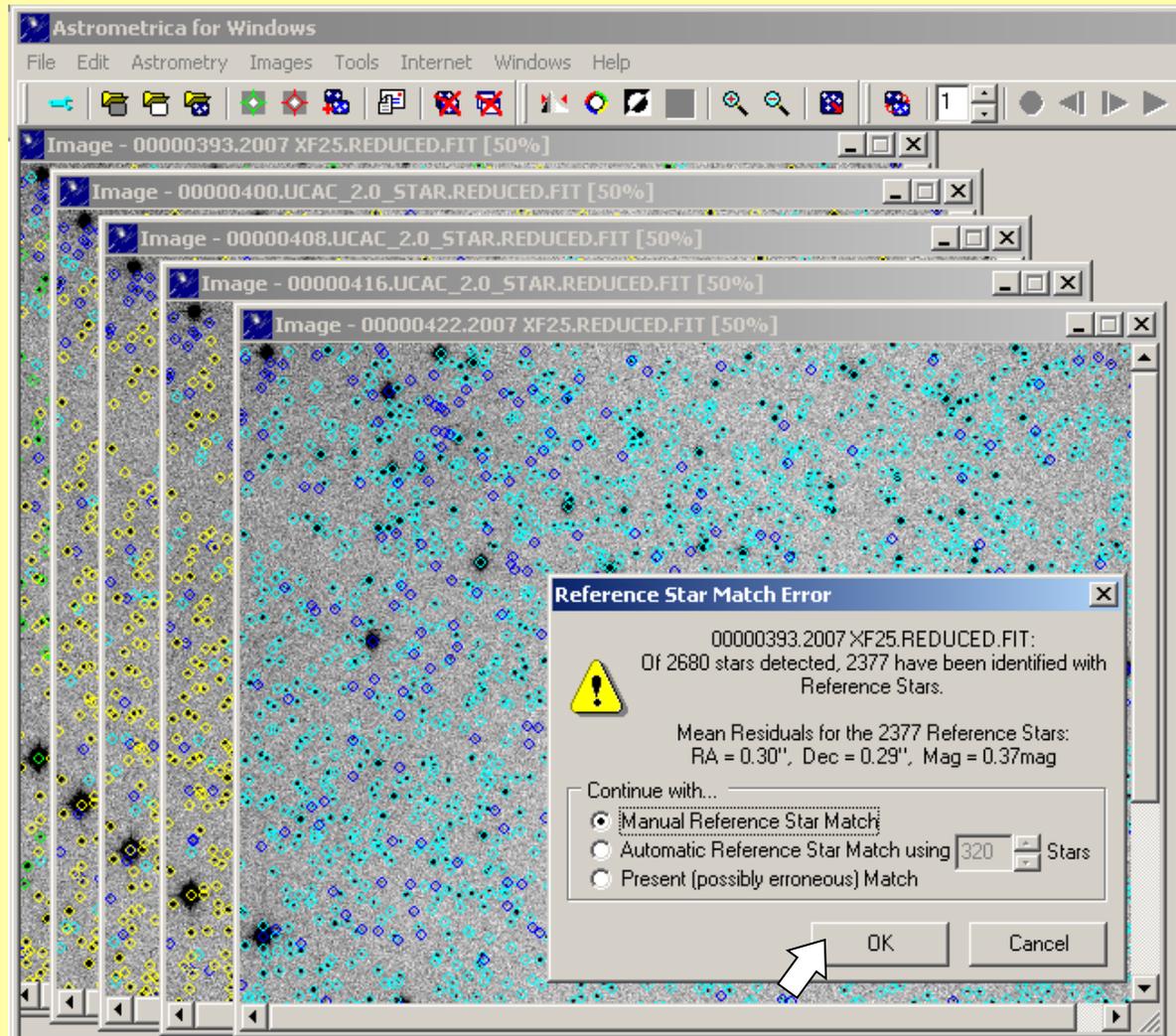


Manual Solutions



If Astrometrica fails to find a solution, you can try to obtain a manual star match.

Click [OK] to start the Manual Reference Star Match.

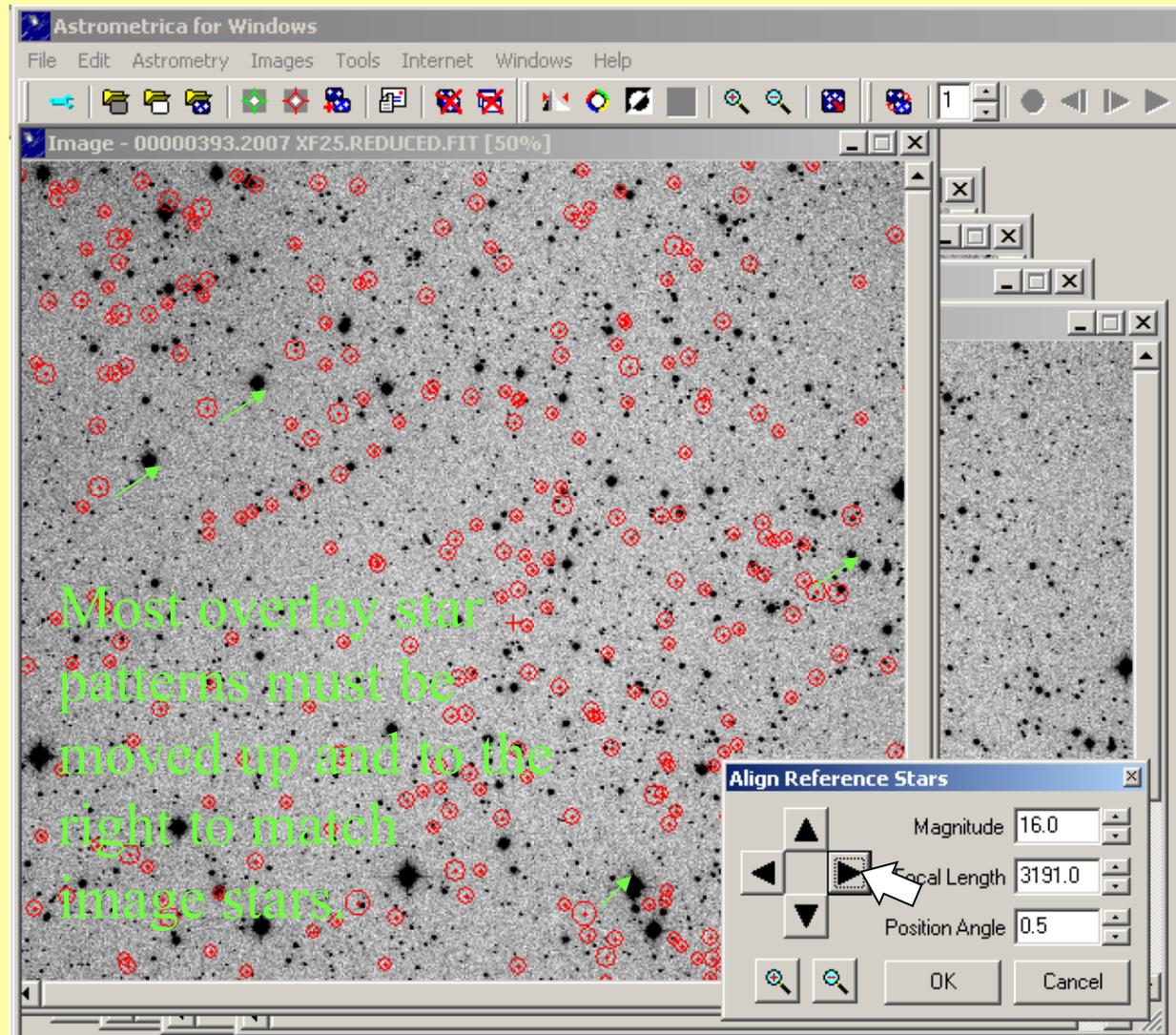




Manual Solutions



Click the directional arrows to move the star pattern overlay to match it to the stars in the image.



Most overlay star patterns must be moved up and to the right to match image stars.



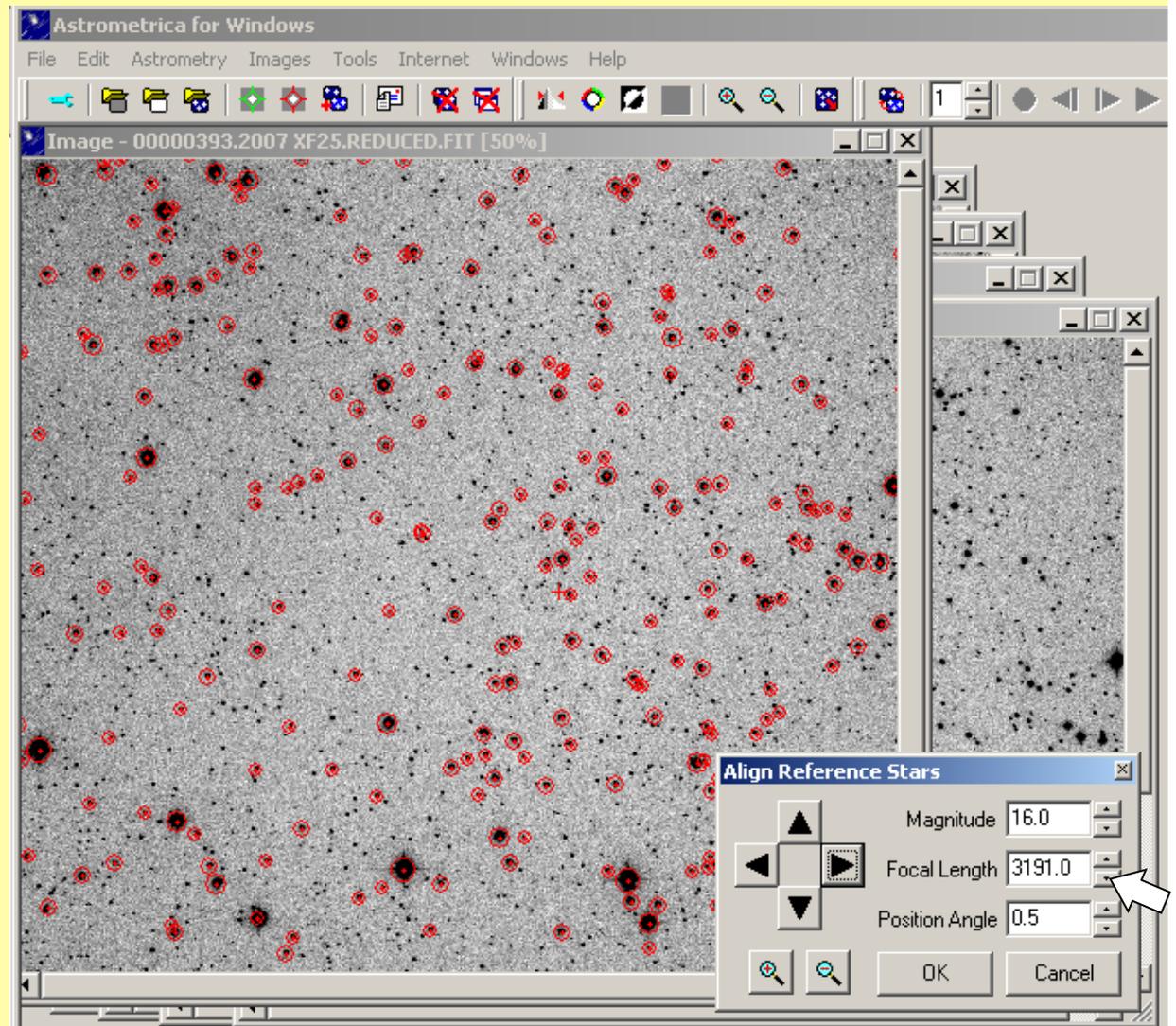
Adjusting Focal Length

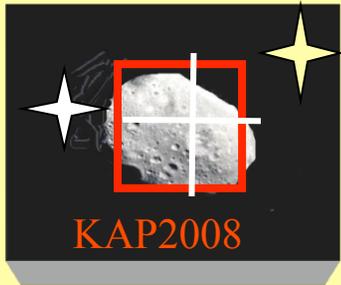


After most of the stars near the image center are centered in their reference overlay circles, adjust the focal length as needed to shrink or expand the overlay.

-Reduce focal length to shrink the overlay.

-Increase focal length to expand the overlay.





Adjusting Focal Length

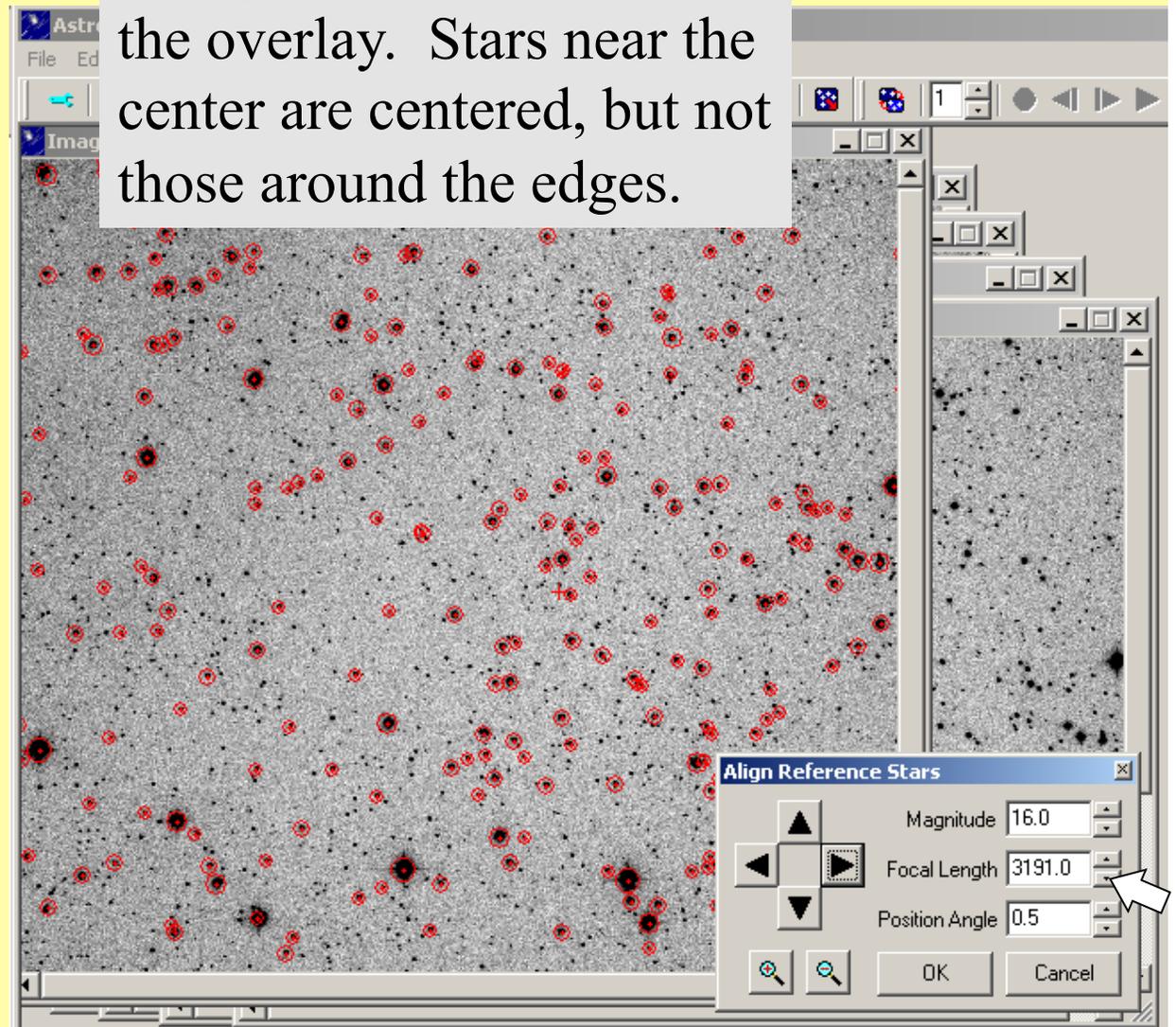


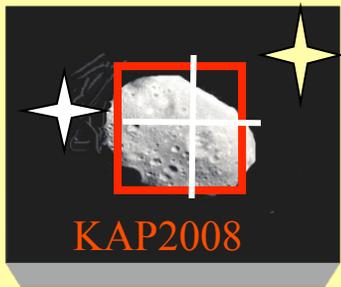
After most of the stars near the image center are centered in their reference overlay circles, adjust the focal length as needed to shrink or expand the overlay.

-Reduce focal length to shrink the overlay.

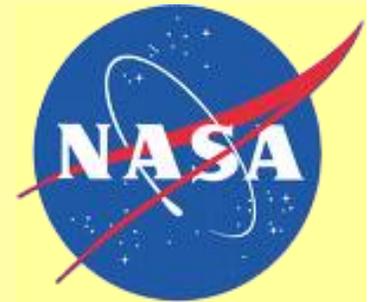
-Increase focal length to expand the overlay.

Here, Focal Length must be adjusted down to shrink the overlay. Stars near the center are centered, but not those around the edges.





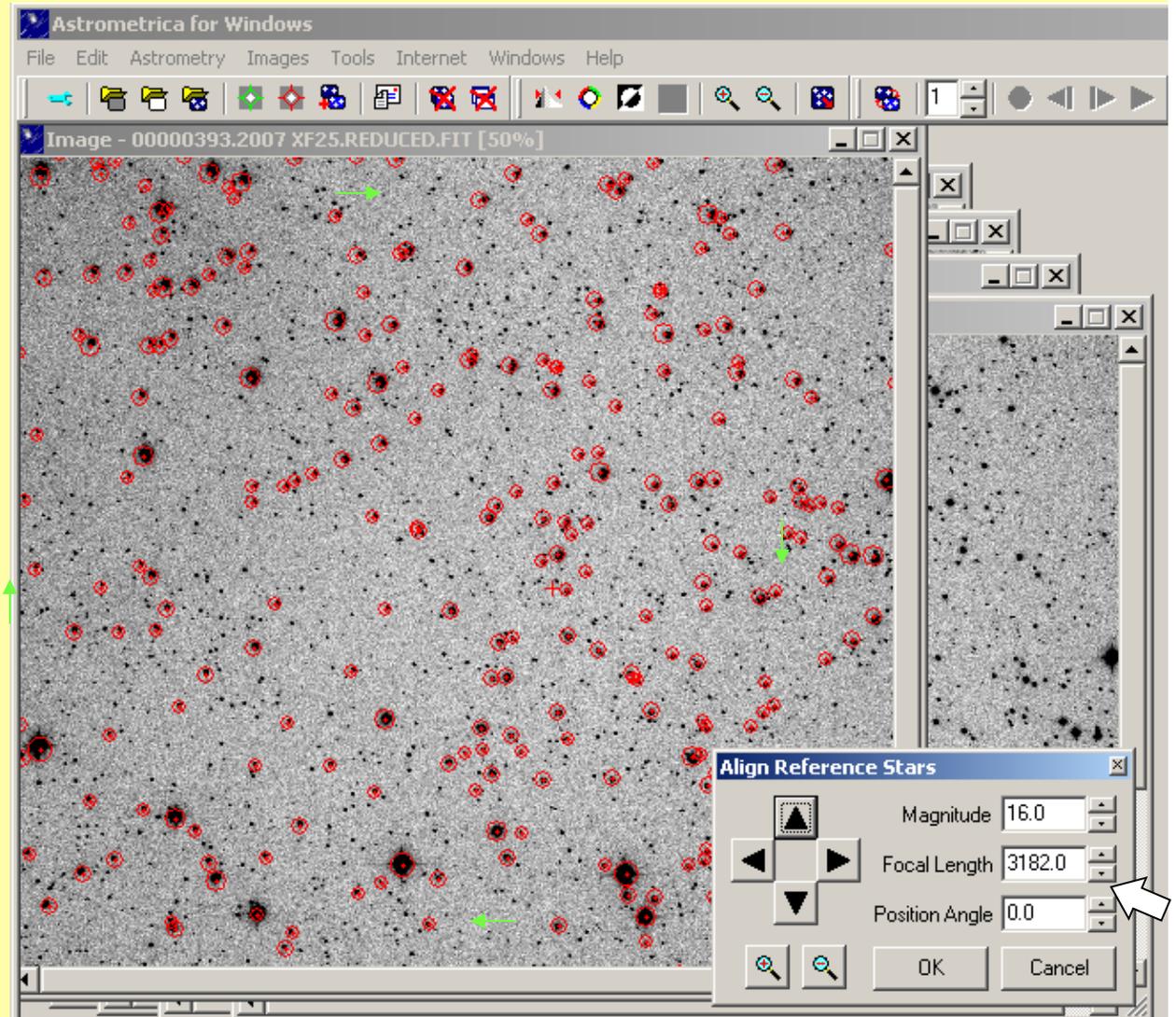
Adjusting Position Angle

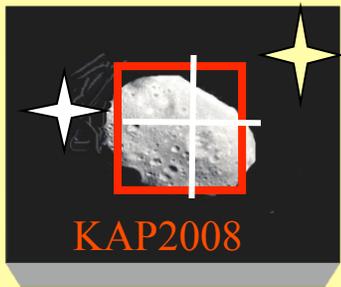


Position angle can be adjusted to rotate the reference star overlay if needed.

-Increasing position angle rotates the overlay clockwise.

o Click [OK] when you have a good match between the overlay and the image.





Adjusting Position Angle

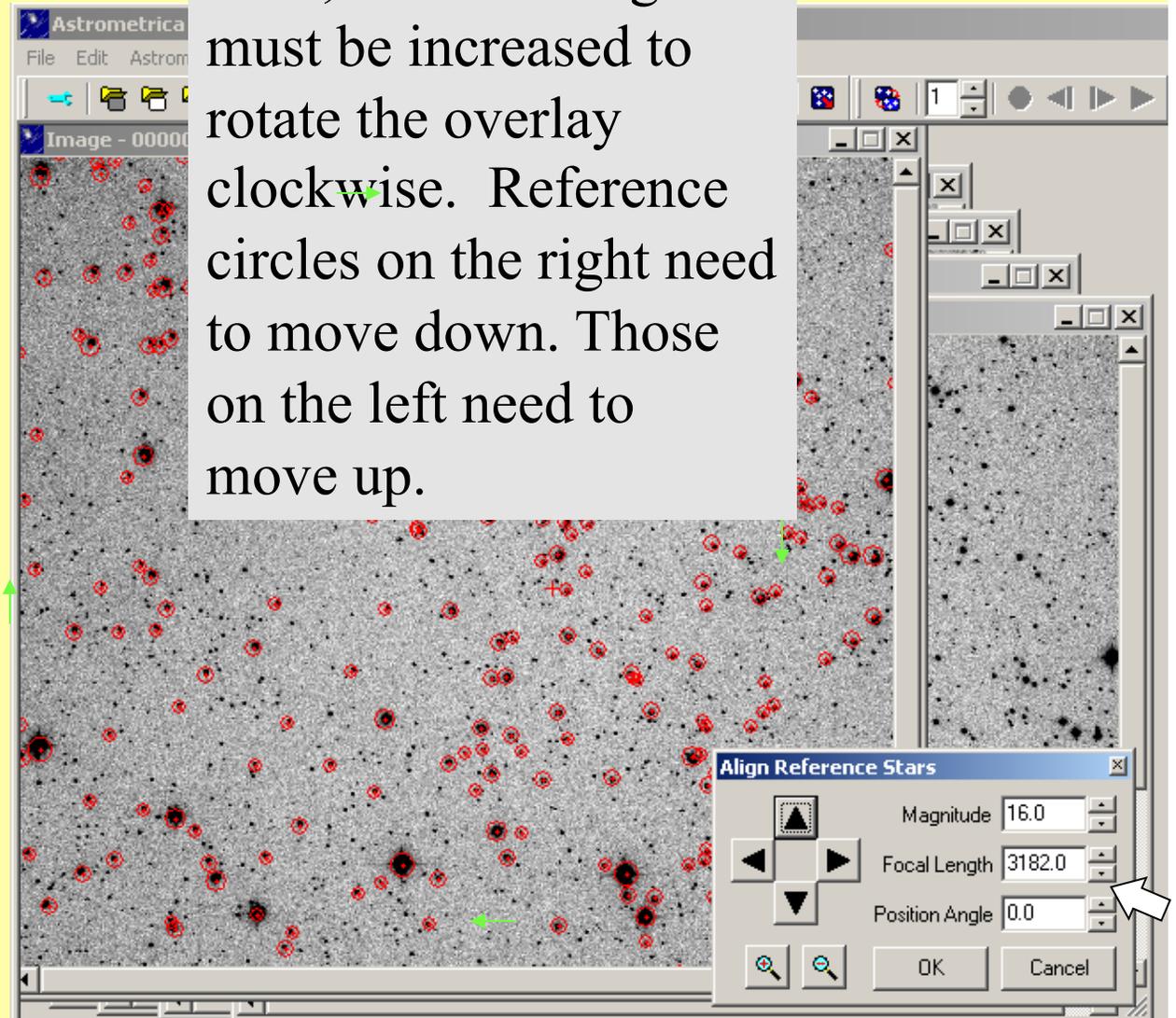


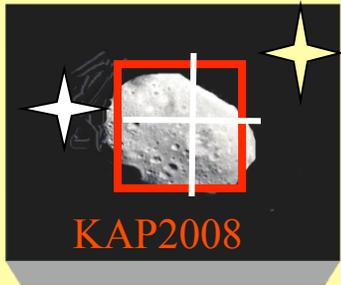
Position angle can be adjusted to rotate the reference star overlay if needed.

-Increasing position angle rotates the overlay clockwise.

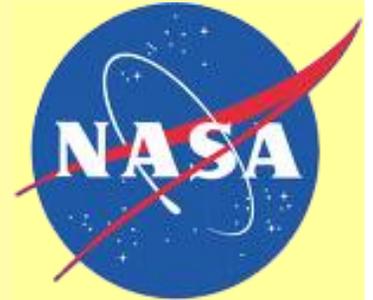
o Click [OK] when you have a good match between the overlay and the image.

Here, Position Angle must be increased to rotate the overlay clockwise. Reference circles on the right need to move down. Those on the left need to move up.



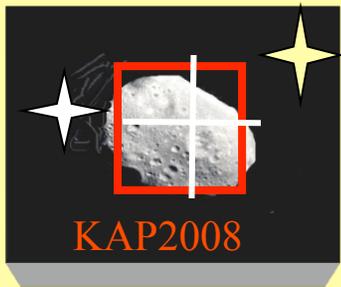


When All Manual Solutions Fail...

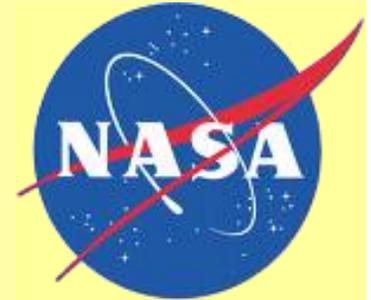


When astrometric solutions fail, try the following:

- 1) Check the CCD Settings to verify that the focal length is correct.
- 2) Click [Window] [Tile Windows]. Check images to ensure:
 - A) Images are of the same star field and are aligned.
 - B) All images have about the same seeing conditions
 - C) None of the images have major artifacts (streaks, airplanes, satellites, Moon, bright planets, etc).
 - D) Stars are not distorted in shape by telescope movement.
- 3) Discard any images that are misaligned, have poor seeing, or artifacts that might cause astrometric solution problems, then retry the Automatic solution.



When All Manual Solutions Fail...



4) If the automatic solution still fails, click [Settings], select the Program tab, then adjust the Astrometric and Photometric Limit residuals upward by 0.05 and try the automatic solution again. Repeat this step until a solution is obtained.

