



# STARS

## WCS Coordinates Using MaximDL





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### Overview

This tutorial assumes you have an understanding of WCS Coordinates.

Here we will walk through:

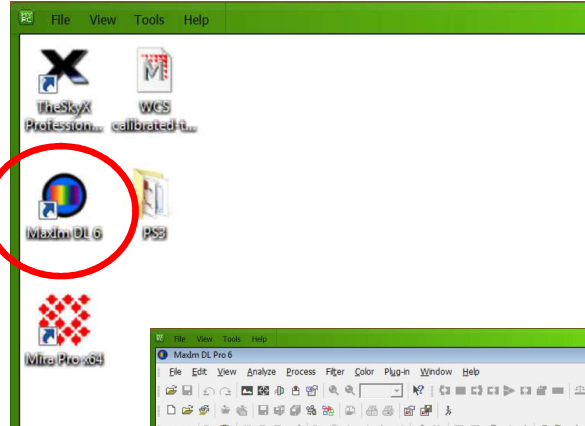
- Accessing your star images on BARC,
- Opening them in MaximDL,
- Applying WCS coordinates to the images, and
- Saving the files for processing in your software platform.



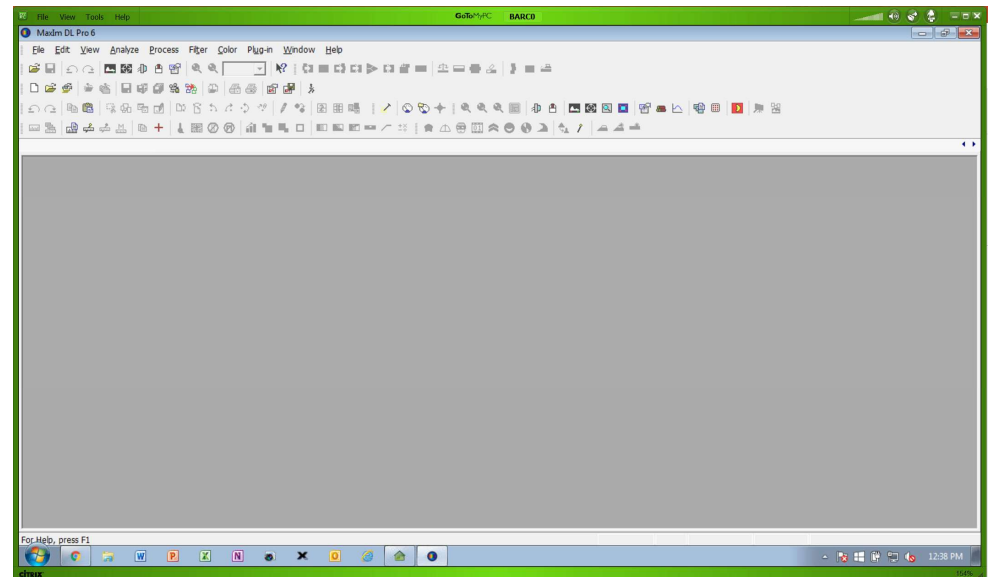
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NOTE: To begin, this tutorial assumes that you have ordered your images for iTelescope and have received feedback that the images were successful and are now ready for processing on BARC.

1. Locate and double click on MAXIM DL



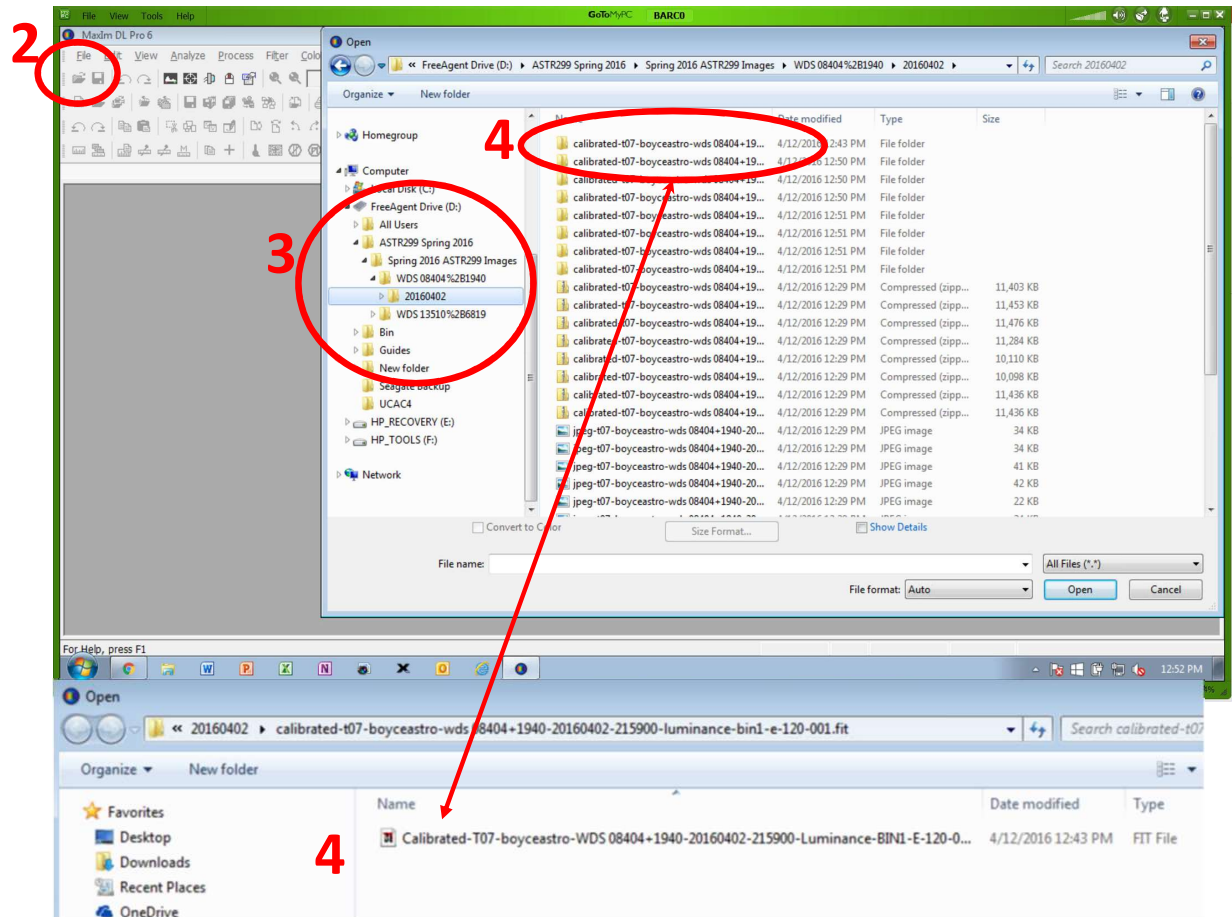
2. Maxim will open, and look like this:





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2. Click on the OPEN Folder icon.
3. Using the window that opens next, navigate to your files
4. Open the folder with your files and double click on each one you wish WCS coordinates for. They should open in MaximDL.

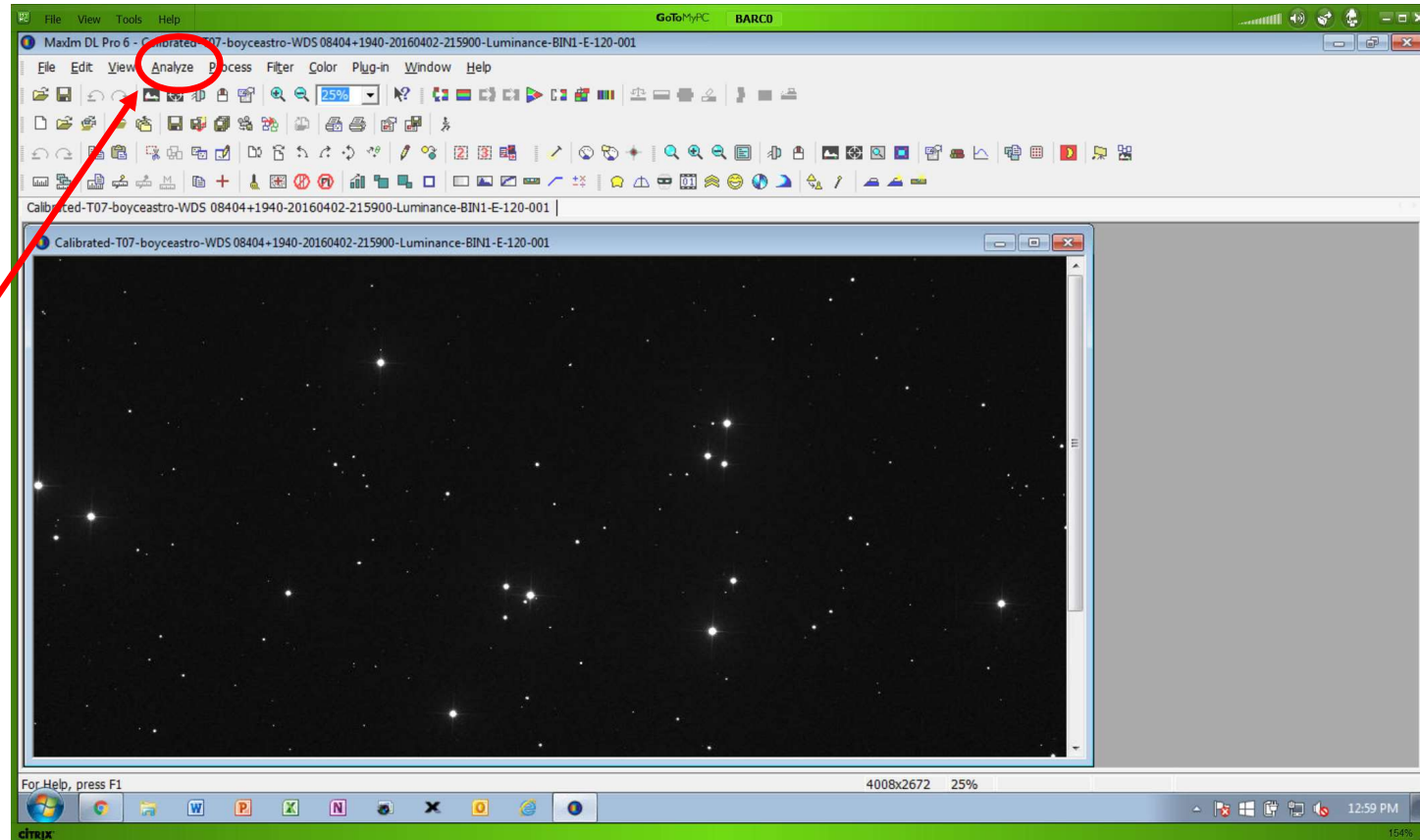


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5. When the image opens, it will be very big. Use the Zoom if necessary to resize
6. Click on the Analyze menu name.
7. When the menu opens, select PinPoint Astrometry.

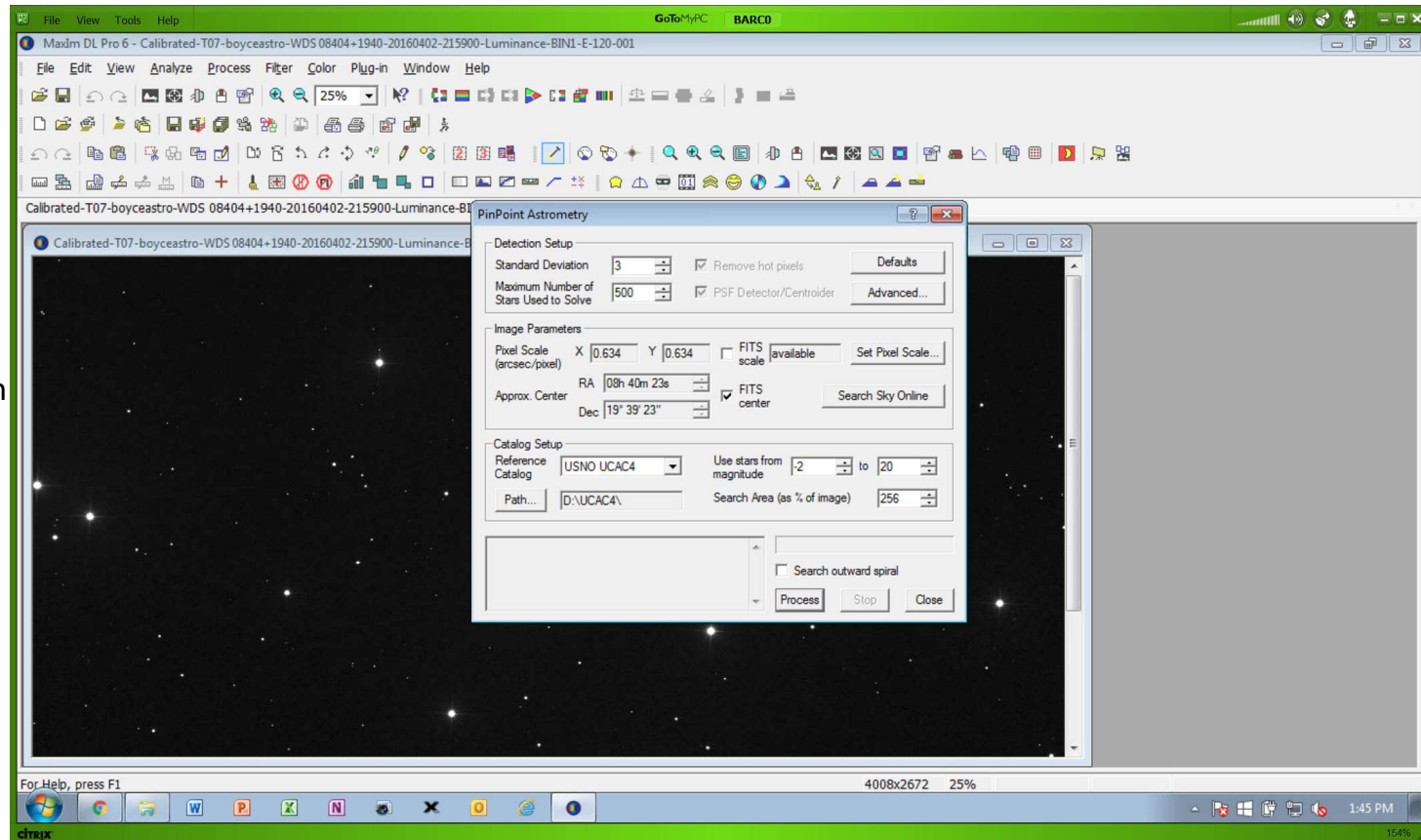


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- With PinPoint Astrometry selected, your screen will look like this. This is where we are going to have the program access a catalog (UCAC4), query the catalog from metadata contained within the image file for the approximate location of this image, and then use data in that catalog to accurately define where in space this image was taken. When it is complete, the image will contain accurate RA/DEC coordinates from which we can accurately measure stars in the image.

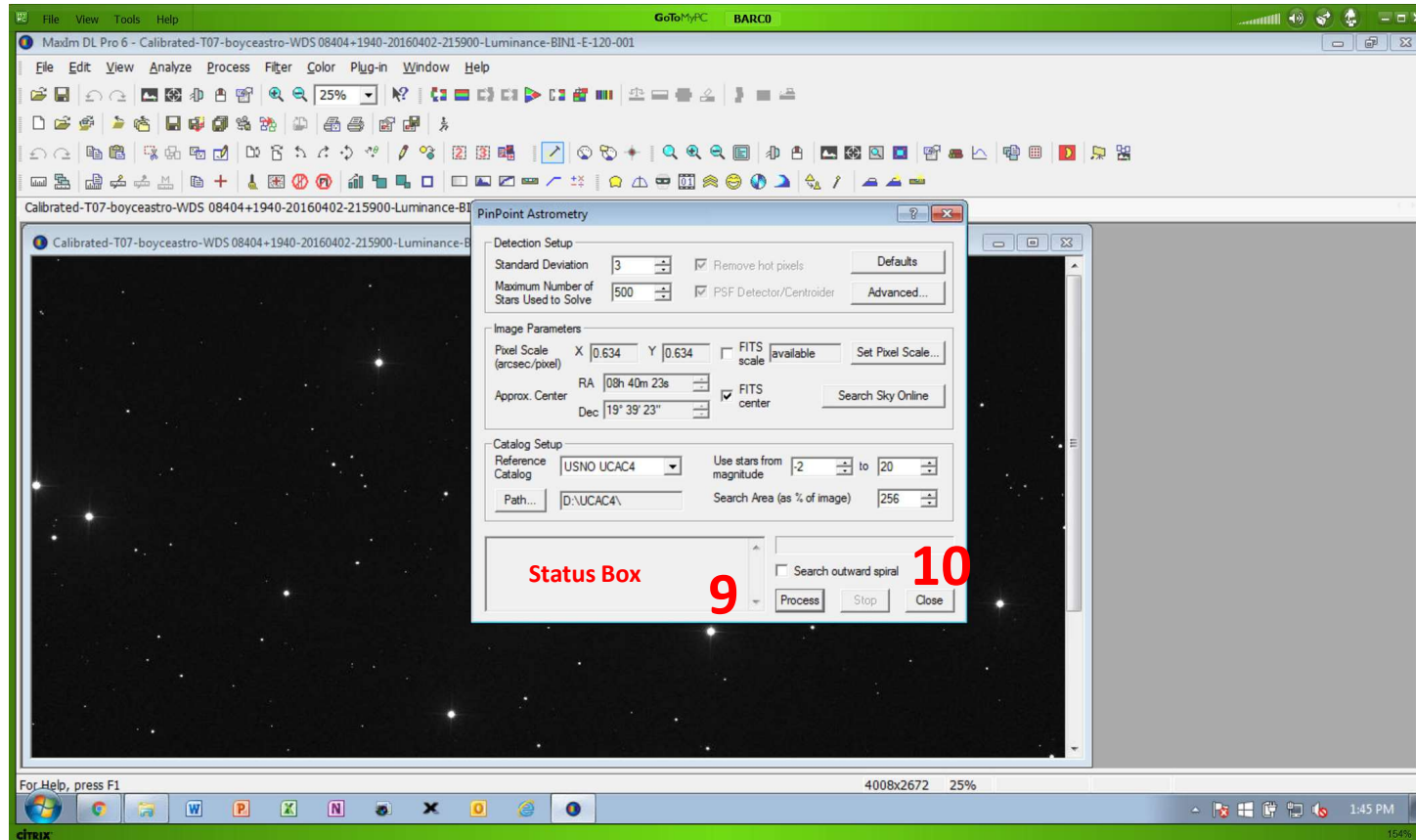


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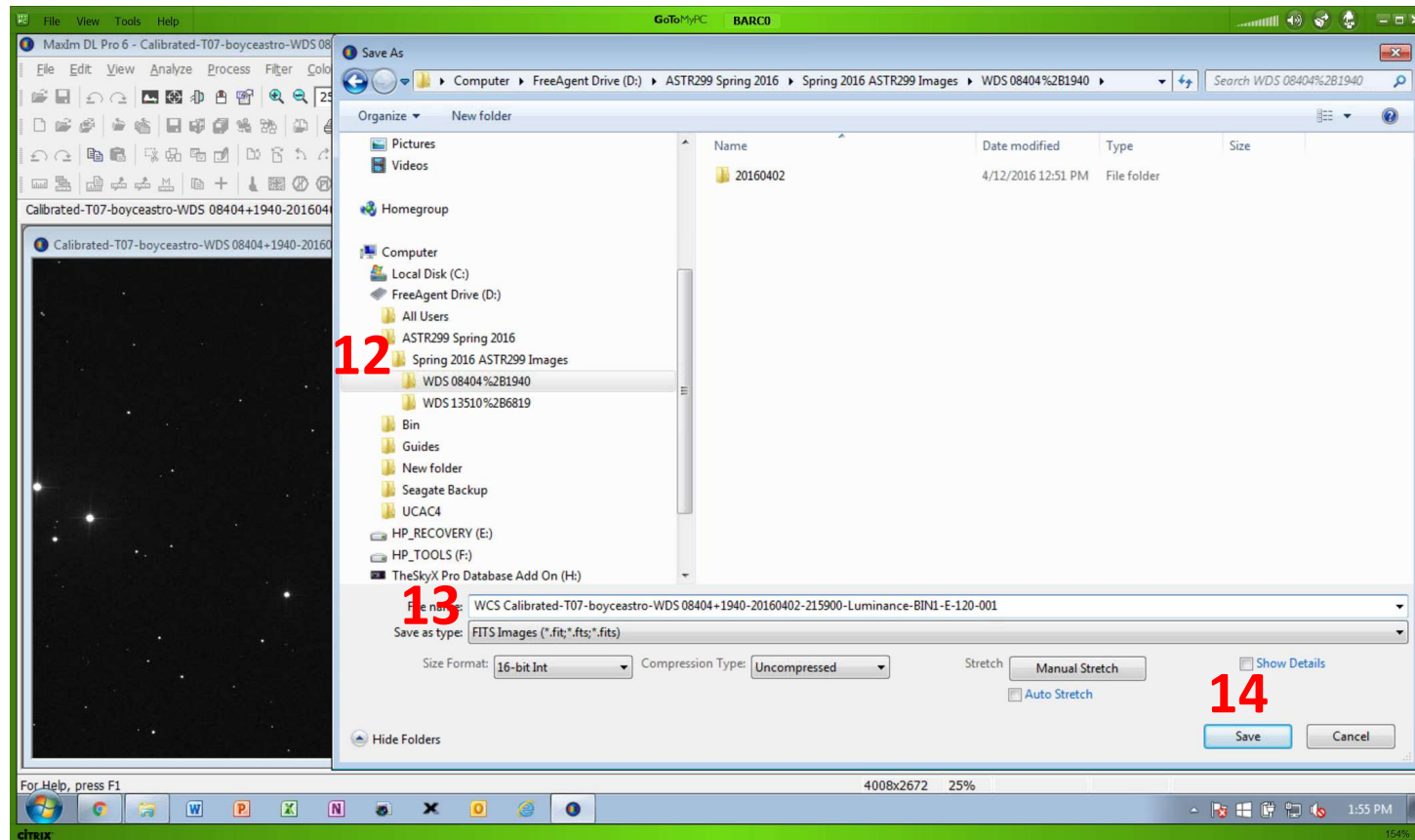
- There is no need to change any of these parameters. Click Process and the program will locate the RA/DEC for this image. While the image is processing, watch the status box for updates. The process is complete when it gives a “Pos Angle”, “FL”, and measurement per “px”. **IMPORTANT:** even though it says Pos Angle, this is not the Pos Angle of your star. It is the Pos Angle of the camera on the scope.
- When complete, press Close.





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11. Click on File....Save As.
12. Navigate to the main image folder for this star in your teams file folder.
13. Append the letters WCS in front of the File Name window. This tells you and your team that that image is WCS calibrated and will protect your raw image file.
14. Ensure the Compression Type is set to UNCOMPRESSED & Click Save.



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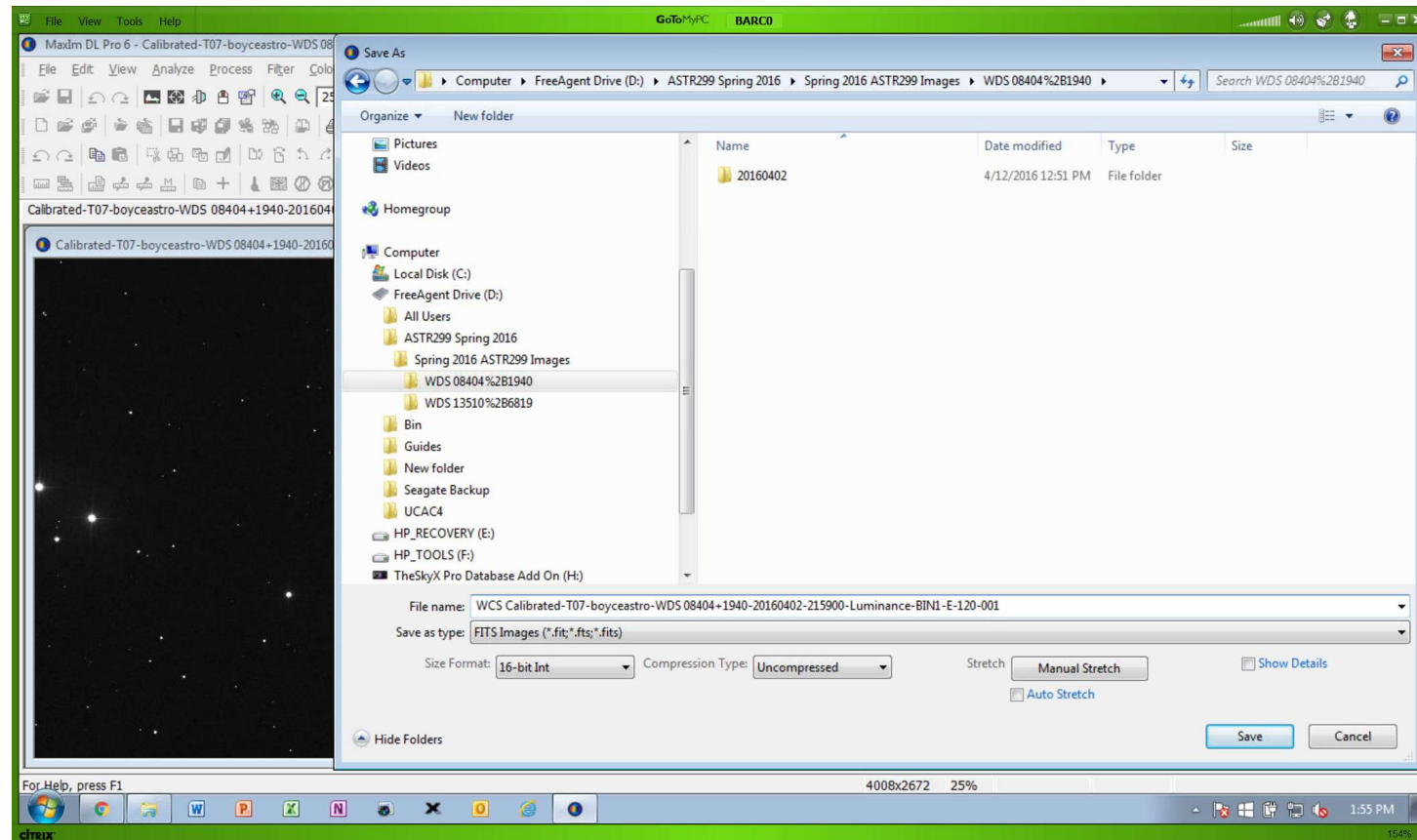




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Your image is now saved with the World Coordinate System (WCS) attached. This allows the next step, Mira, to know where the star is and allow you to accurately measure your binary stars.

Repeat steps as necessary for each image that needs to be WCS calibrated.



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### Summary

MaximDL is a very effective tool, and an alternative way to insert WCS Coordinates into your images. Like Astrometry.Net, these are processed one at a time.

However, these are processed faster.

You must use the BARC Server for MaximDL/PinPoint to work.



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*Questions?*