Final Image

Combining Foreground/Sky

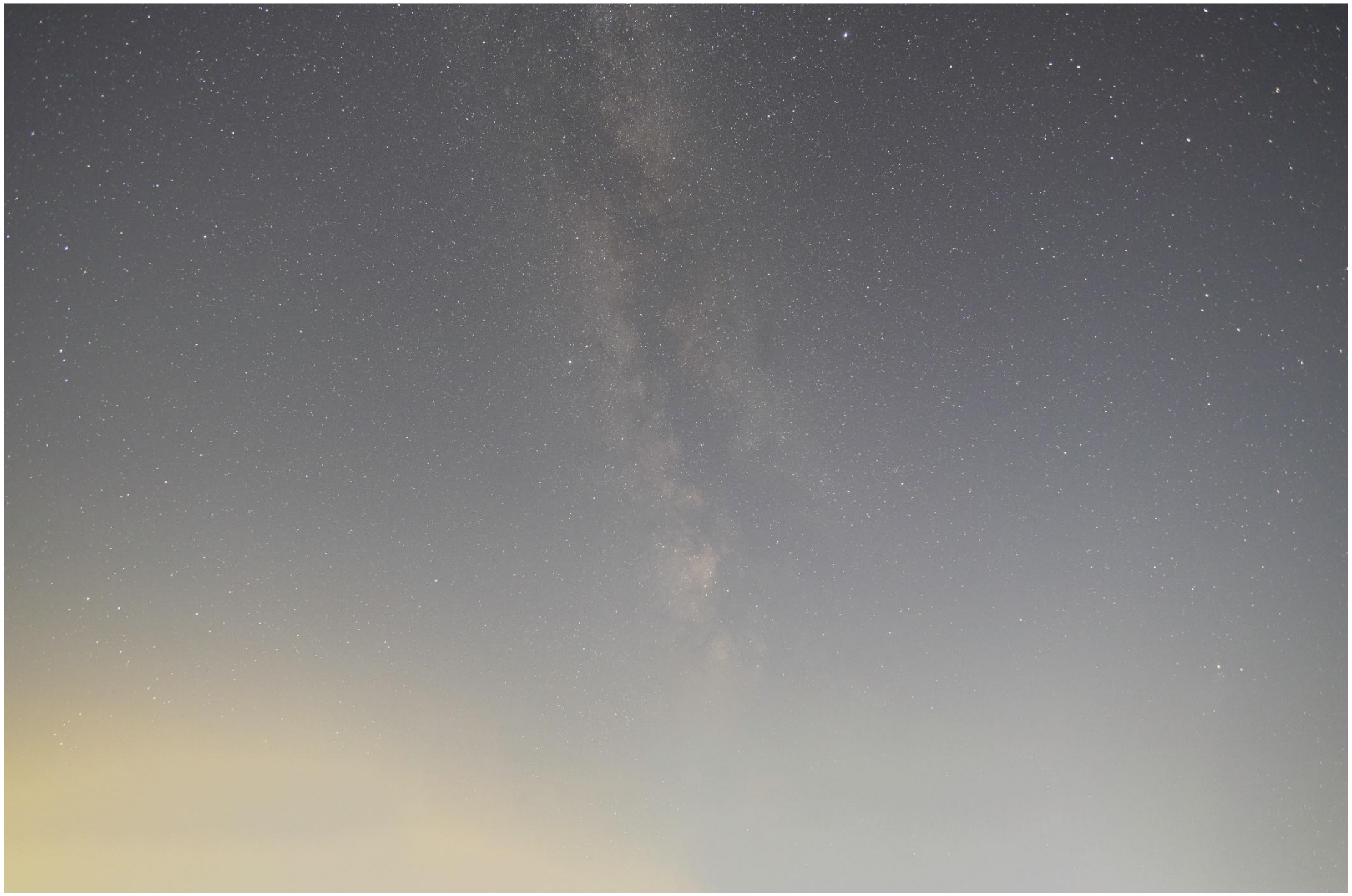
- In the Sky stack, the foreground is blurry.

Exposure: 4 Minutes, F2.8, ISO3200

Final Image

Combining Foreground/Sky

- In the Sky stack, the foreground is blurry.
- Delete the foreground then fill the space with a Content Aware Fill.

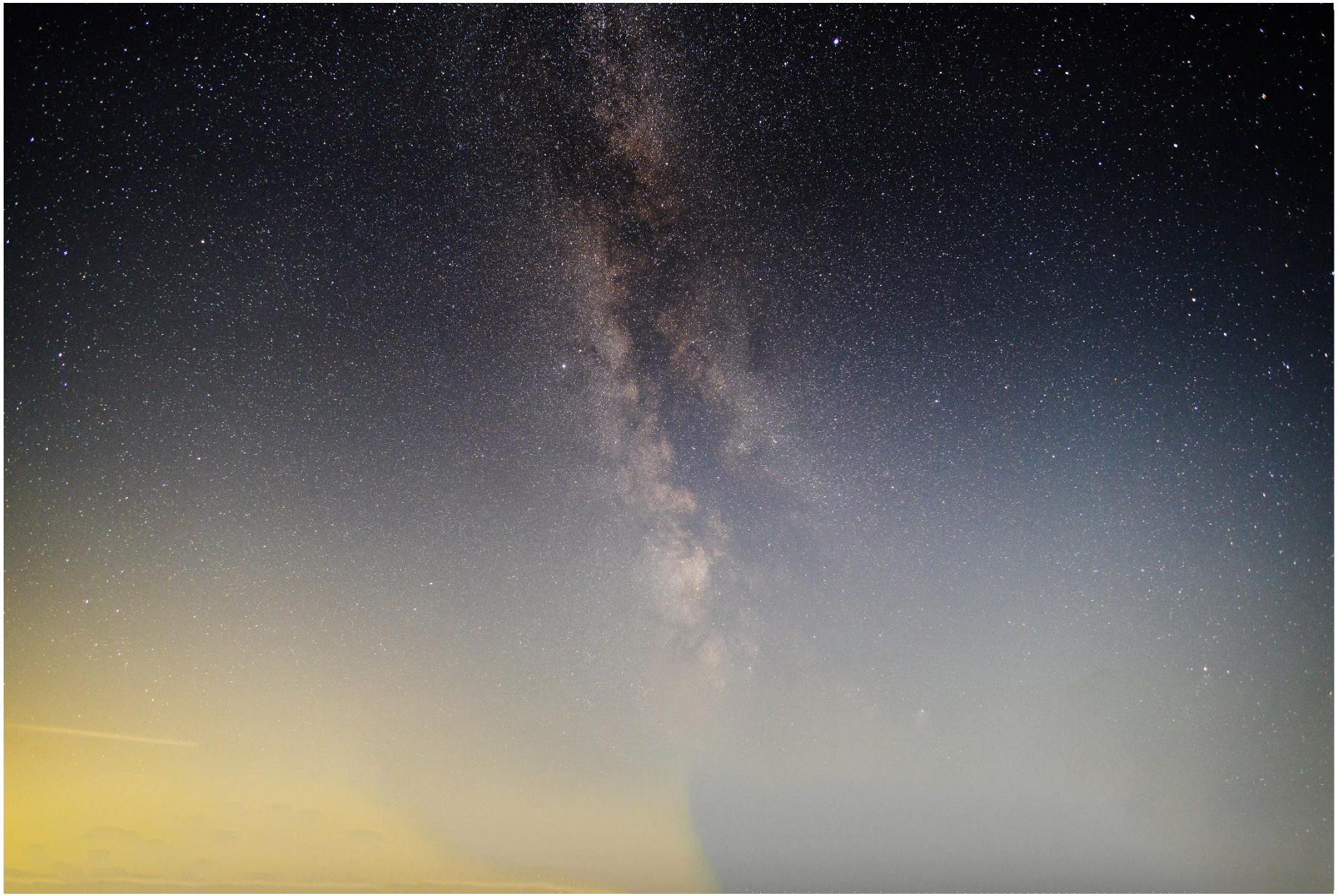


Exposure: 4 Minutes, F2.8, ISO3200

Final Image

Combining Foreground/Sky

- In the Sky stack, the foreground is blurry.
- Delete the foreground then fill the space with a Content Aware Fill.
- Use Camera Raw Clarity slider, and saturation to gradually increase ‘local’ contrast in the sky.



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Final Image

Combining Foreground/Sky

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- Use Camera Raw Clarity slider, and saturation to gradually increase ‘local’ contrast in the sky.
- Overlay the static foreground stack with a Darken blend mode.

Exposure: 4 Minutes, F2.8, ISO3200

Final Image

Combining Foreground/Sky

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- Delete the foreground then fill the space with a Content Aware Fill.
- Use Camera Raw Clarity slider, and saturation to gradually increase ‘local’ contrast in the sky.
- Overlay the static foreground stack with a Darken blend mode.
- Adjust colour temperature, boost saturation and lighten top part of image with a curves adjustment and graduated mask.
- Reduce star impact using a ‘Minimum’ Filter.
- (Filter→Other→Minimum)

Exposure: 4 Minutes, F2.8, ISO3200

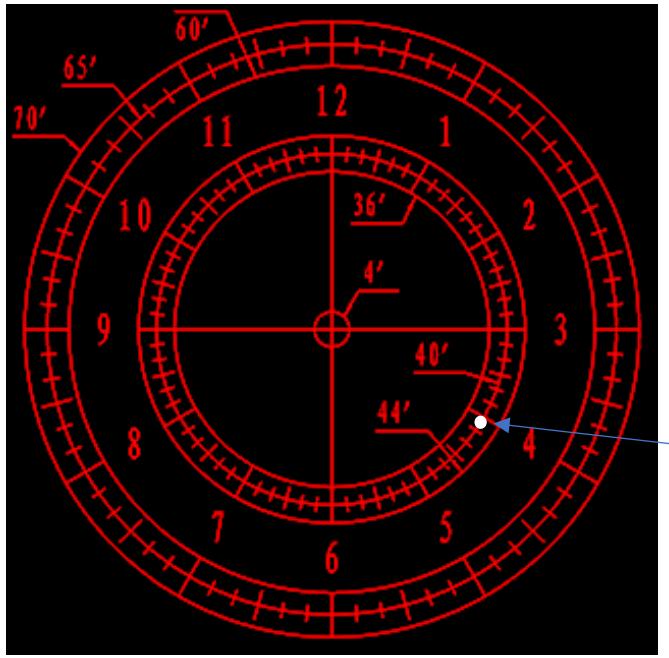
Spring Arc - Panorama

- Tracker not useful due to difficulty in horizontal panning - use 3-Way Geared Head if available.
- Frame shots vertically and overlap by ~50%.
- Either take several images per frame (Say 8x15sec = 90sec each frame), or single shots at ~30sec.

- **Processing**
- Apply lens profiles in Lightroom and save images as Tiffs.
- Align stars for each panel, using Sequator → Star Panels.
- Stack and average foreground images in Photoshop → Foreground Panels.
- Combine into Foreground and Star panels into panoramas in Lightroom, then combine Sky/Foreground panoramas in Photoshop.
- Process Sky and Foreground separately using masks.
- Camera Raw Clarity will draw out Milky Way detail.

Astro Trackers

- Astro Trackers allow increased exposure times by tracking the night sky rotation.
- The axis of the tracker is aligned to the celestial pole.
- Once aligned, the stars are tracked by rotation of the tracker.



Polaris
Aligned

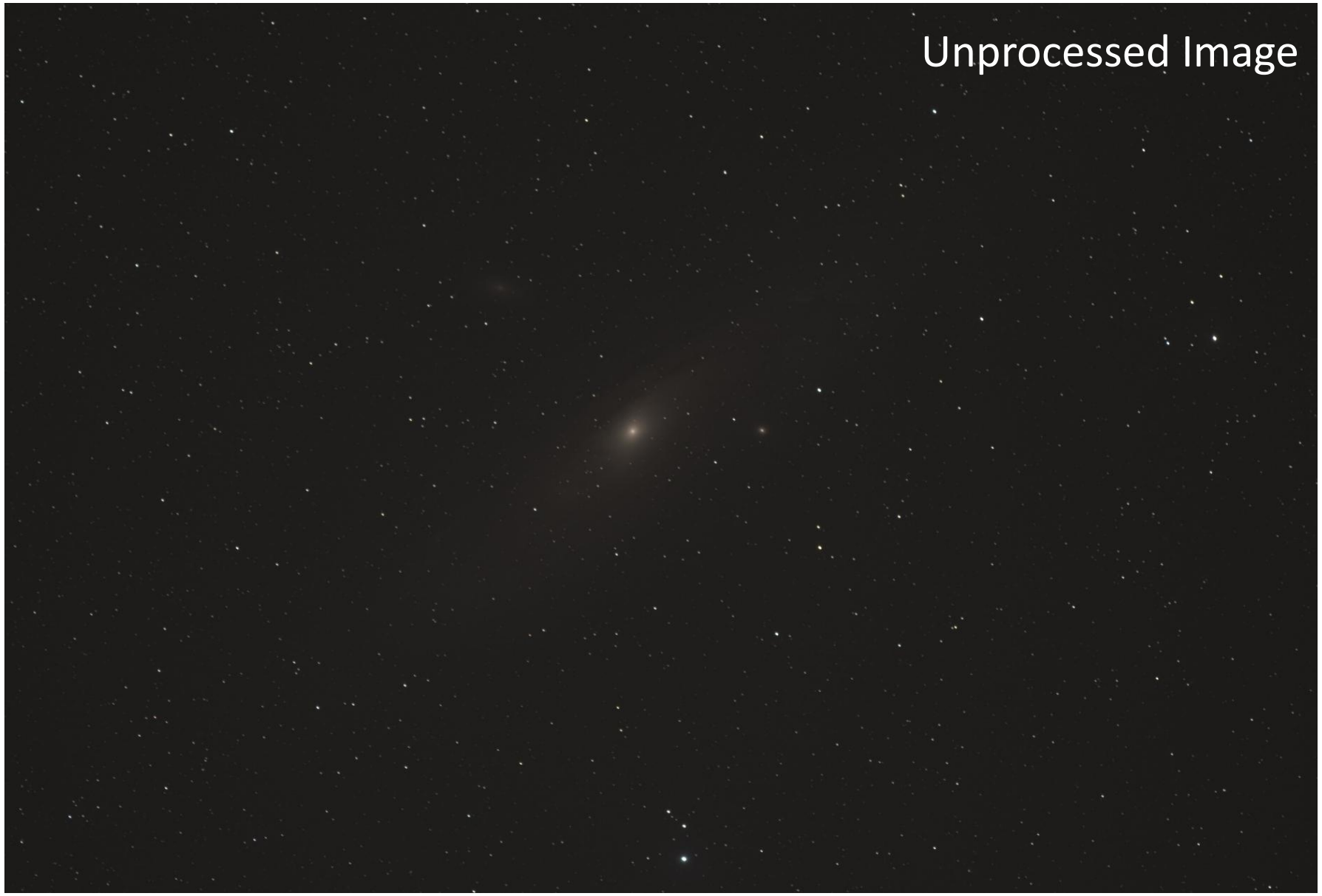
iOptron SkyGuider Pro ~ £300

Astro Tracker

Milky-Way Setup.
Tracker with Tripod Head, Camera and Wide Angle Lens.

Deep Space Setup.
Tracker with Bar and Counterweight. Camera and Tele-photo Lens.
A red dot finder helps locate objects in space.

Deep Space Astro-Photography



Andromeda Galaxy -

Bortle 4 skies
Canon EOS80D + 300mm Lens on iOptron SkyGuider Pro.

F4, ISO400.
Total Exposure time – 43 Minutes.

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2 million years in the making!

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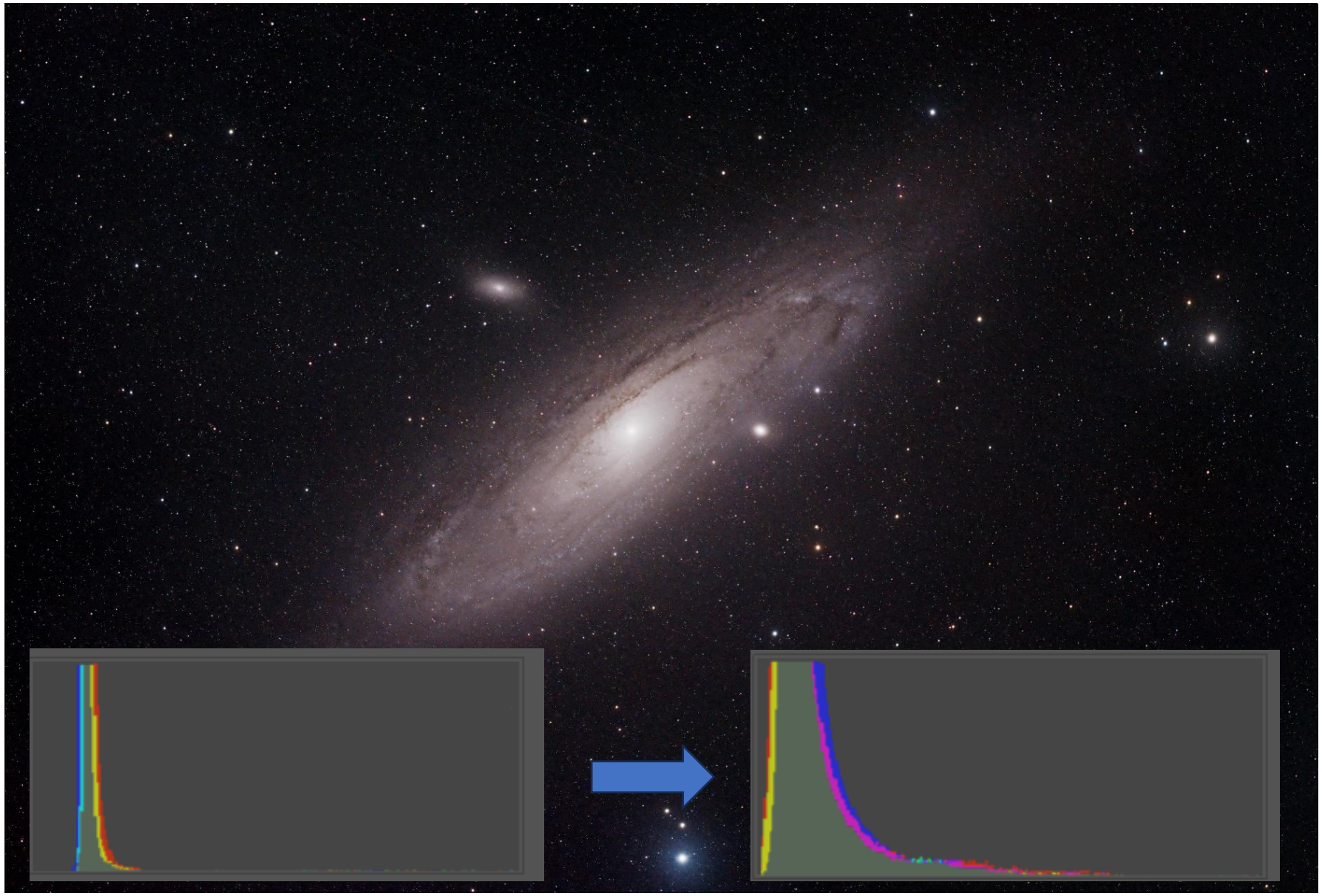

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Bortle 4 skies
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Total Exposure time – 43 Minutes.

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Processing:-

- Stretch Shadows
- Keep space dark
- Avoid over-exposing stars.

My Home Astro Rig

- HEQ5 GoTo Equatorial Mount
- 432mm/F6 Telescope
- Mono Cooled Astro Camera → -20^{0}C
- Filter Wheel for Colour and Narrow-Band Filters
- Guide Scope → Locks onto a star for Guiding
- Electronic Focuser
- Power Box distributes power to equipment and dew bands
- USB hub
- Mini PC for automated operation

Guiding Accuracy < 1 Arc Second

→ Equivalent to 5p piece at 2 miles!

Night hides the world but reveals the universe.

Wishing you clear skies!
Thank-You for your attention