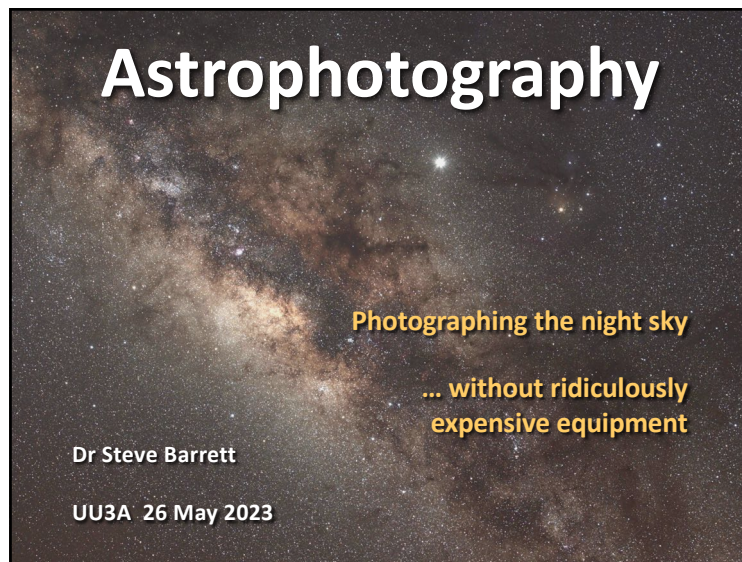


Astrophotography

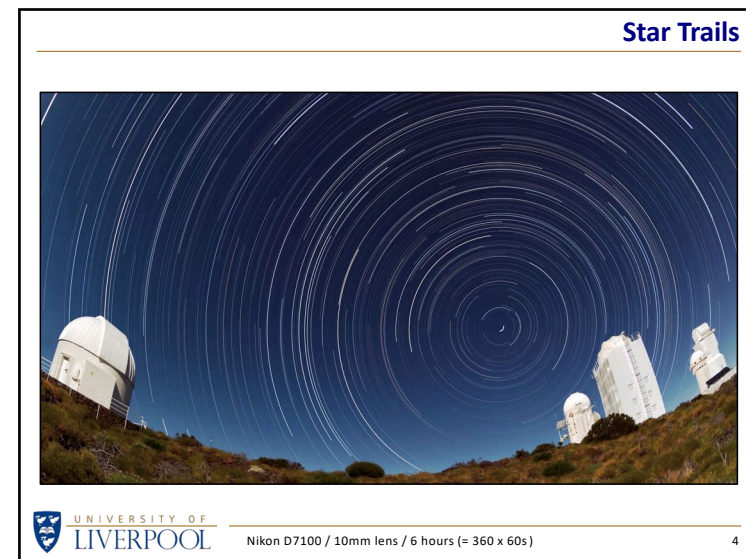
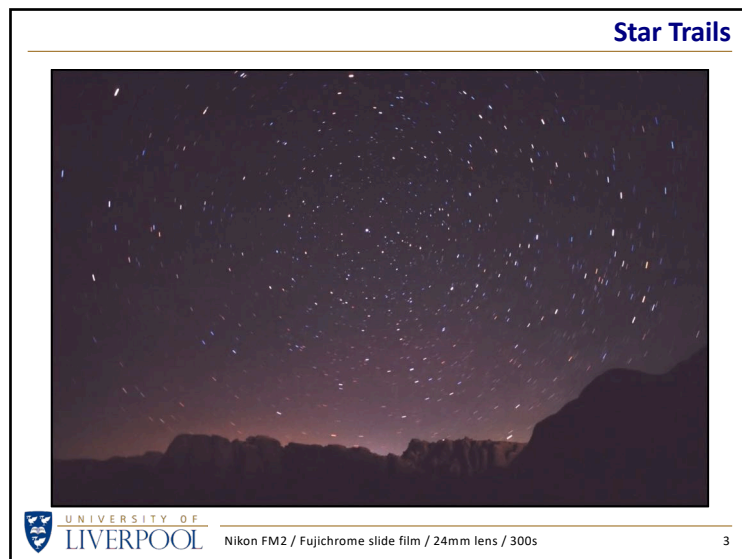


What Do You Need?

Start Simple	Just a camera and tripod
Equipment	Telescopes and mounts
Equipment	Cameras and star trackers
Photo Gallery	Some of my images
Astro Africa	Under the darkest skies

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Astrophotography

Comet Holmes



Right Place ... Right Time



Right Place ... Right Time



Total Eclipse – Sahara Desert – 29 Mar 2006

What Do You Need?

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Astrophotography

What Do You Need?



Keep an eye on eBay

What Do You Need?

If you have a \$billion to spare ...



M51



M16

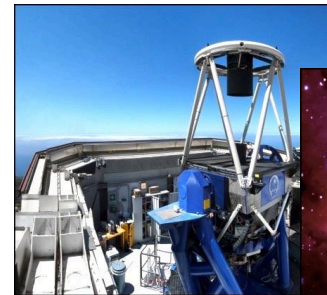
What Do You Need?

If you have a \$100 million to spare ...

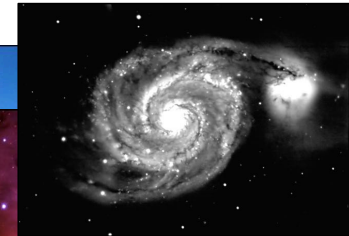


What Do You Need?

If you have ~£million to spare ...



Liverpool Telescope, La Palma



M51



M16

Astrophotography

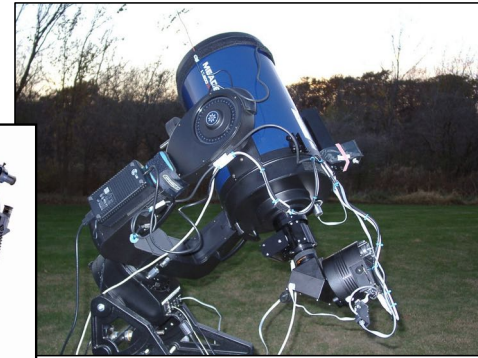
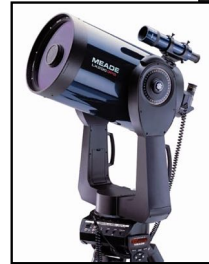
What Do You Need?

If you have
~£250 – £25,000
to spare ...



What Do You Need?

If you have
~£250 – £25,000
to spare ...



Turning a telescope into tech spaghetti

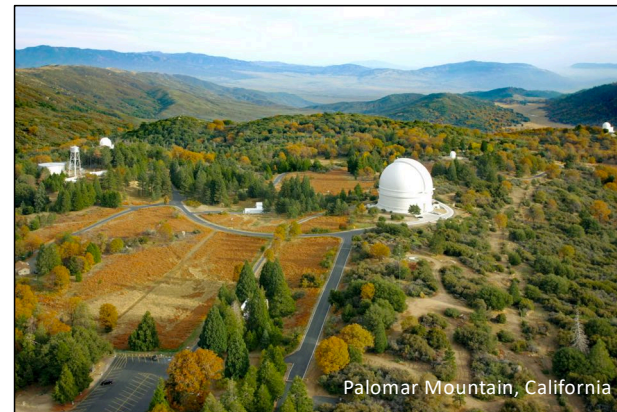
What Do You Need?

If you have
~£250 – £25,000
to spare ...



Many astronomers would
advocate the use of a telescope
mount that is the most sturdy and
most precise that you can afford.

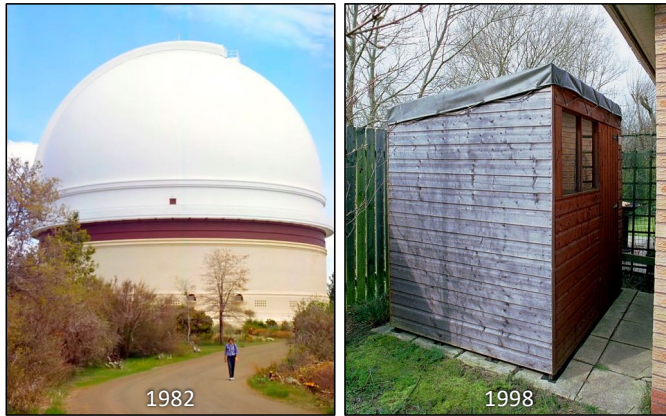
Where To Put the Telescope?



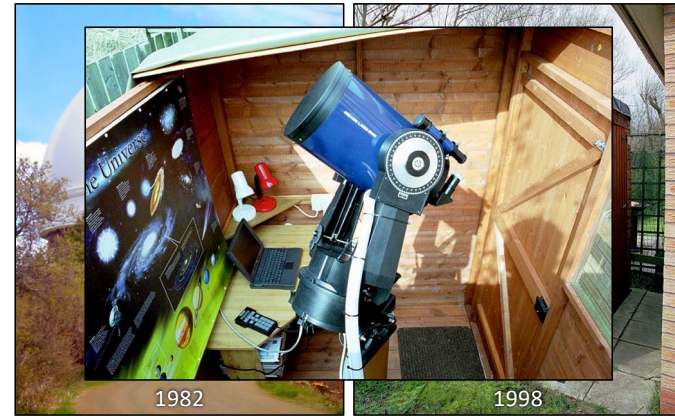
Palomar Mountain, California

Astrophotography

Back Garden Observatory



Back Garden Observatory



Our closest
neighbour can
be fascinating ...

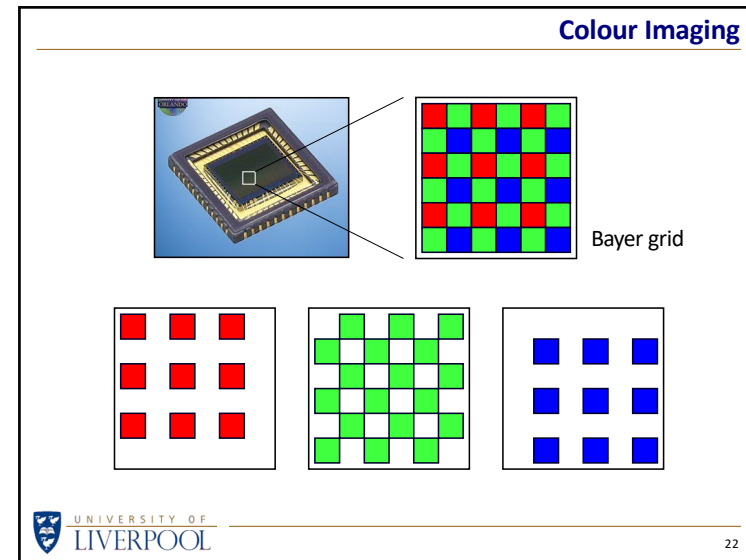
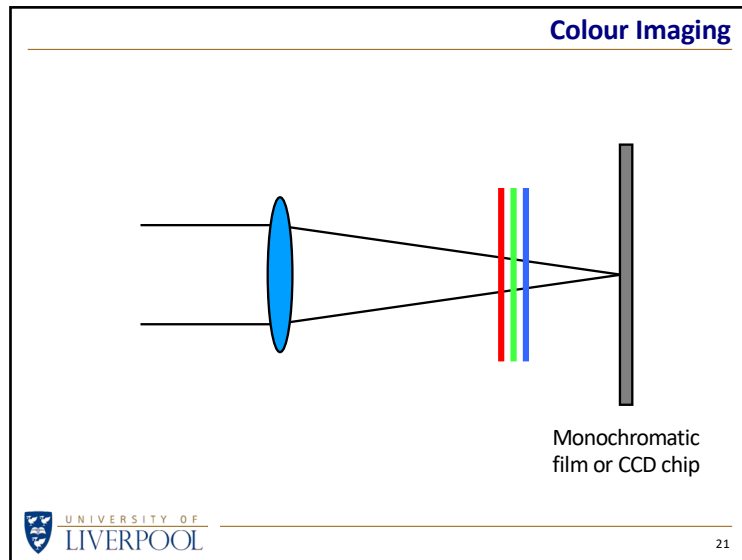
... watching the
shadows of the
craters and
mountains
change from
night to night



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Astrophotography



Astrophotography

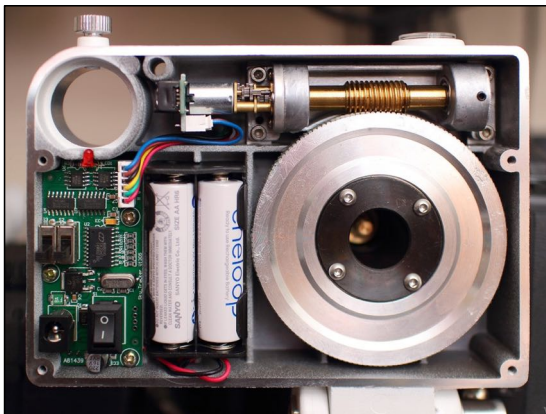
Star Trackers



Star Trackers



Inside a Star Tracker



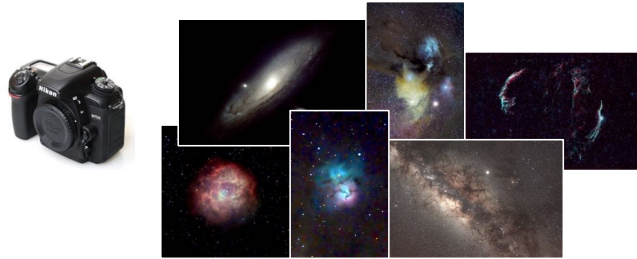
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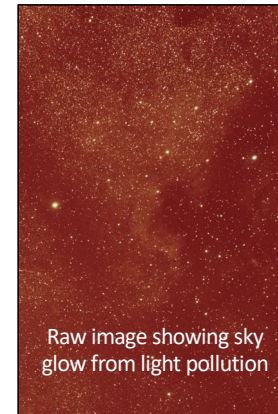
Some Of My Images

I like to take astrophotographs without using a telescope, just using a camera on a star tracker:

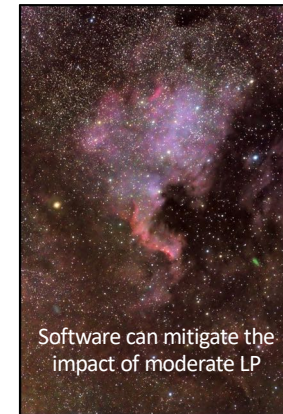


Astrophotography using a telescope can be very rewarding, but to get the most out of it will take quite a bit of time, effort and cash.

Image Processing

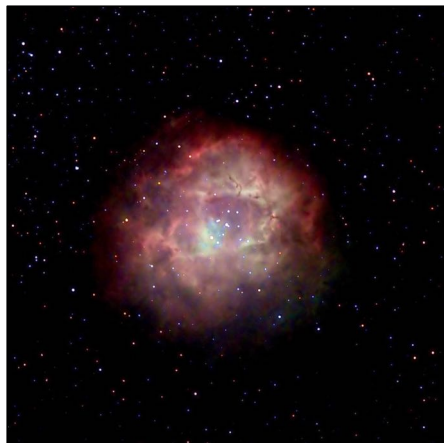


Raw image showing sky
glow from light pollution

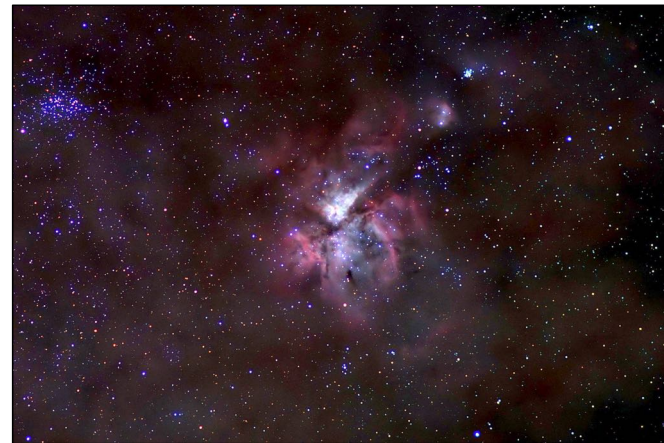


Software can mitigate the
impact of moderate LP

Rosette Nebula

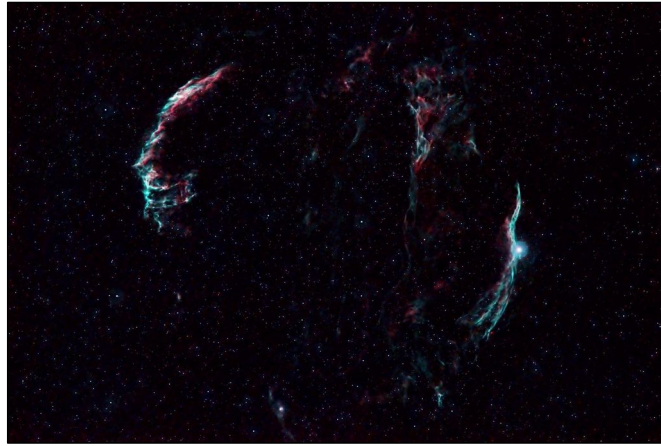


Carina Nebula



Astrophotography

Veil Nebula



Nikon D7500 / 300mm lens / 60 x 60s / Tri-band

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Stars and Stuff



Nikon D7500 / 135mm lens / 60 x 120s

34

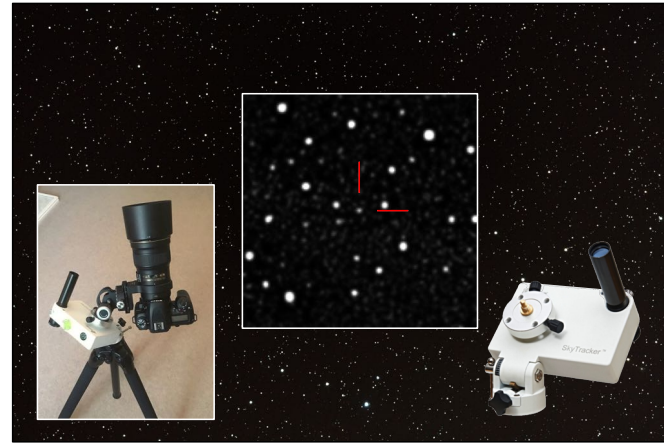
Andromeda Galaxy



Nikon D7500 / 300mm lens / 30 x 60s

35

Lockdown Challenge

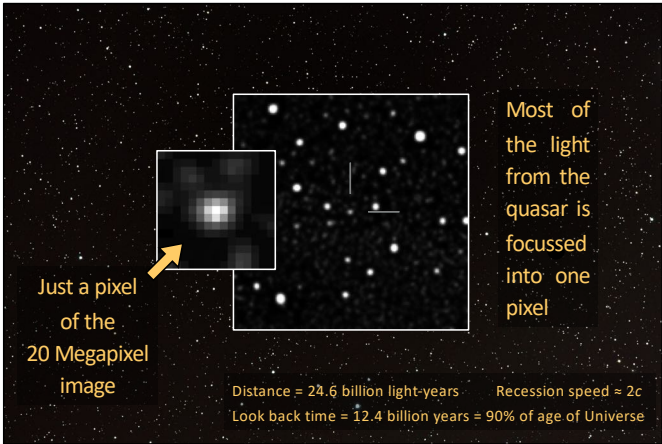


Nikon D7500 / 300mm lens / 256 x 30s

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Astrophotography

Lockdown Challenge



Just a pixel of the 20 Megapixel image

Most of the light from the quasar is focussed into one pixel

Distance = 24.6 billion light-years Recession speed = 2c
Look back time = 12.4 billion years = 90% of age of Universe

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Nikon D7500 / 300mm lens / 256 x 30s

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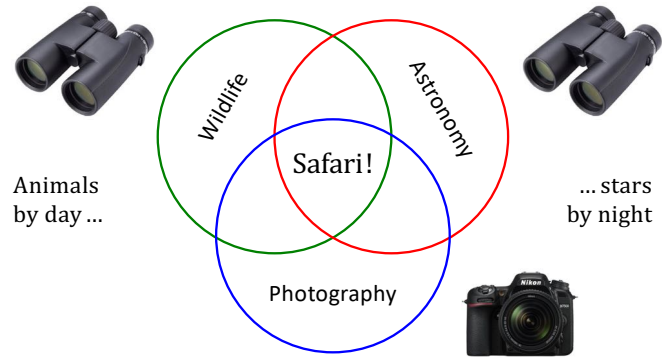
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Wild Astronomy



Animals by day ...

... stars by night

(Sleep when you get home)

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Aligning Using Polaris

With Polaris visible, aligning a star tracker is easy in the UK.

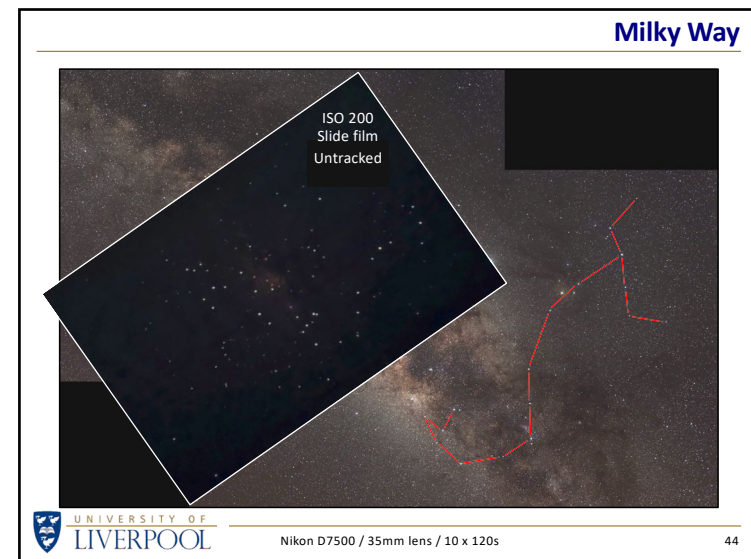
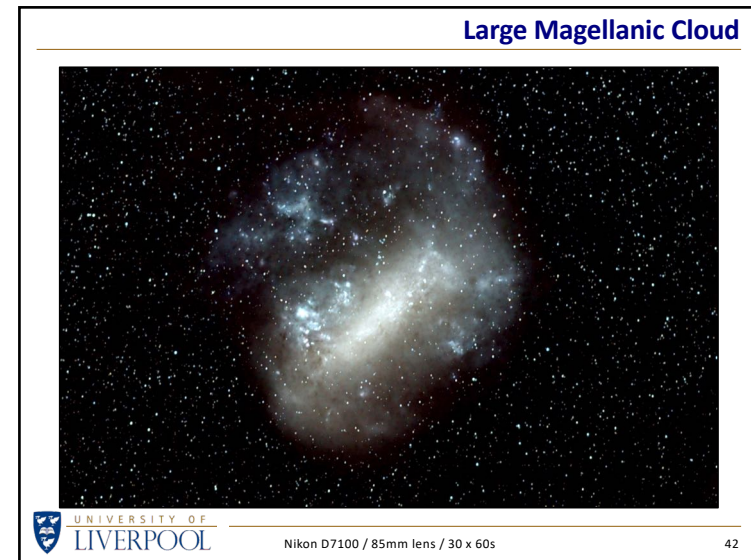
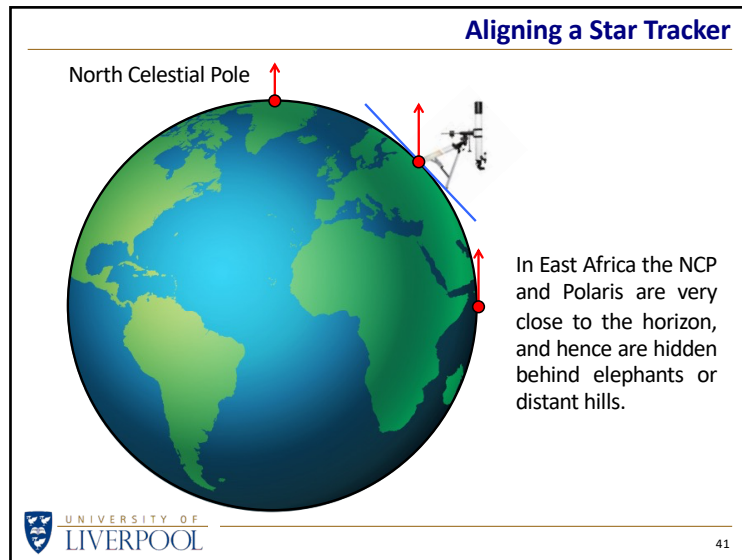


But ...

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Astrophotography



Astrophotography

