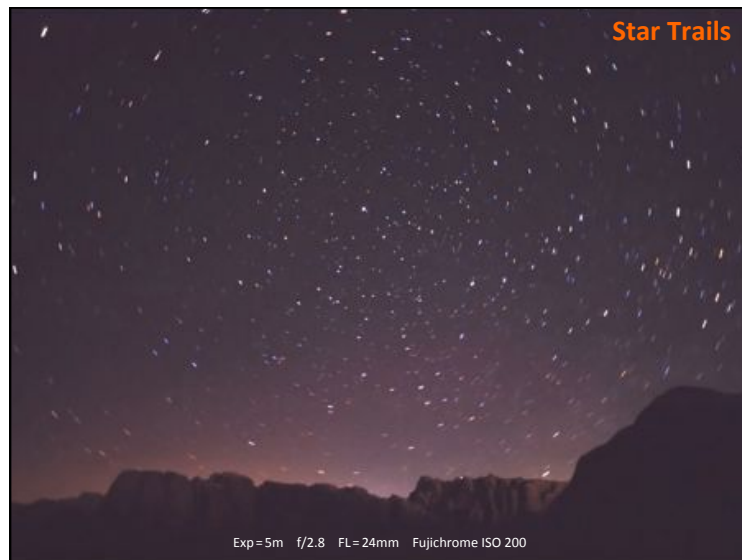
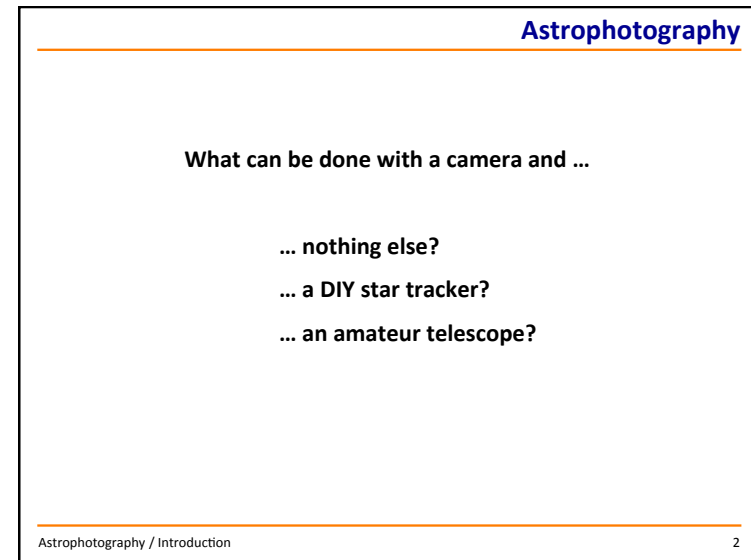
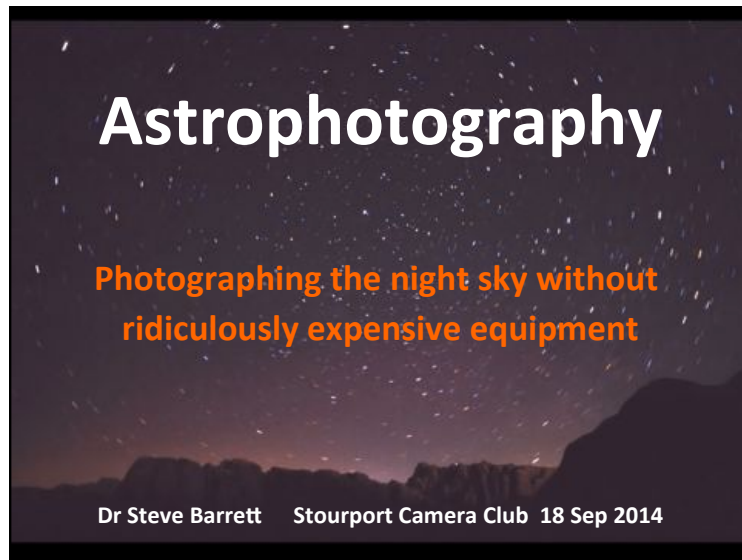


Astrophotography



Astrophotography

Aurora Borealis



Astrophotography / Fixed / Aurora Borealis

Exp = 5m f/2.8 FL = 24mm Fujichrome ISO 200

5

Aurora Borealis

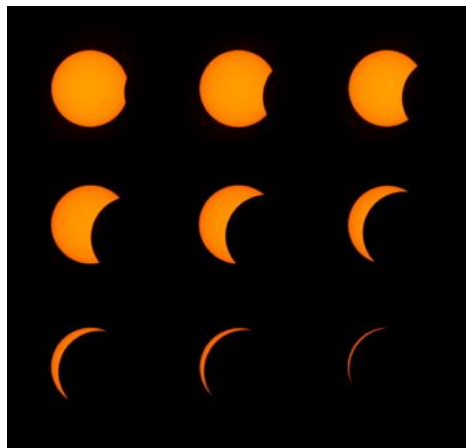


Astrophotography / Fixed / Aurora Borealis

Exp = 5m f/2.8 FL = 24mm Fujichrome ISO 200

6

Solar Eclipse



Astrophotography / Fixed / Solar Eclipse

Exp = 1/100s f/4 FL = 300mm Nikon D200

7



Exp = 1/4 - 1/250s f/4 FL = 300mm Nikon D200

Astrophotography

Star Trails



Astrophotography / Fixed / Star Trails

Exp=2m f/2.8 FL=18mm Nikon D70

9

Tracking the Stars

How can the sky be photographed without the stars trailing?
Build a device to compensate for the Earth's rotation — a star tracker.

Ideally... For K2 this means...

Compact	Footprint no larger than A4
Light	Less than 1 kg
Strong	Able to support a digital SLR
Accurate	Exposures of up to 15 minutes
Battery operated	AA batteries
Low power	Run for ~ 6 hours
Cheap	Cost < £50 for all components
Easy to construct	Manual tools (no workshop)

Astrophotography / Star Tracker

10

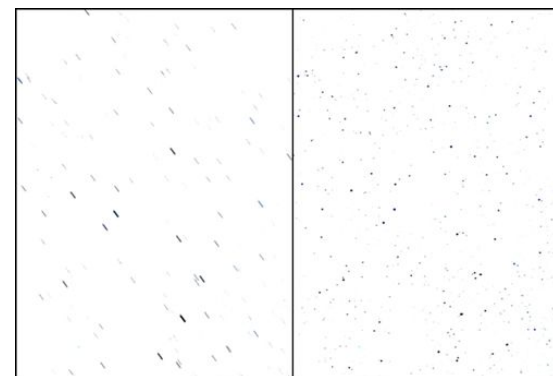
K2 Star Tracker



Astrophotography / Star Tracker

11

K2 Star Tracker



K2 off

K2 on

Astrophotography / Star Tracker

Exp = 30s FL = 100mm

12

Astrophotography



Tracking the Stars



Astrophotography / Star Tracker / Antares

Exp = 4m f/1.8 FL = 85mm Nikon D7100

14

Star Trackers



Astrophotography / Star Trackers

15

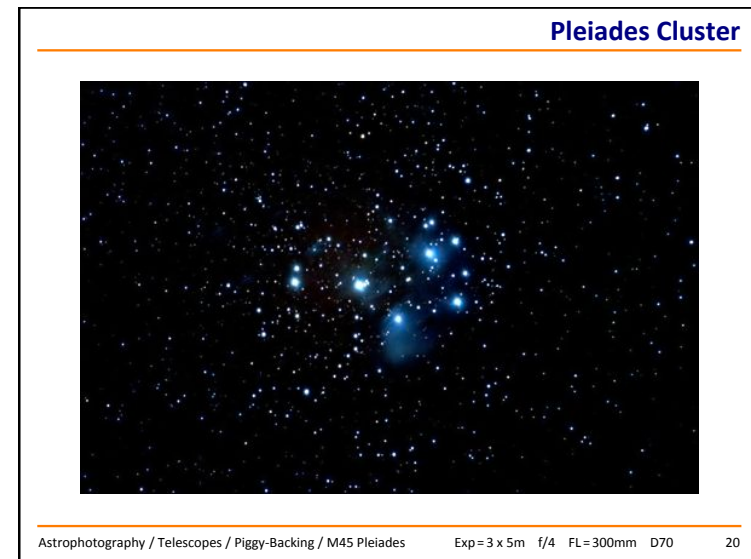
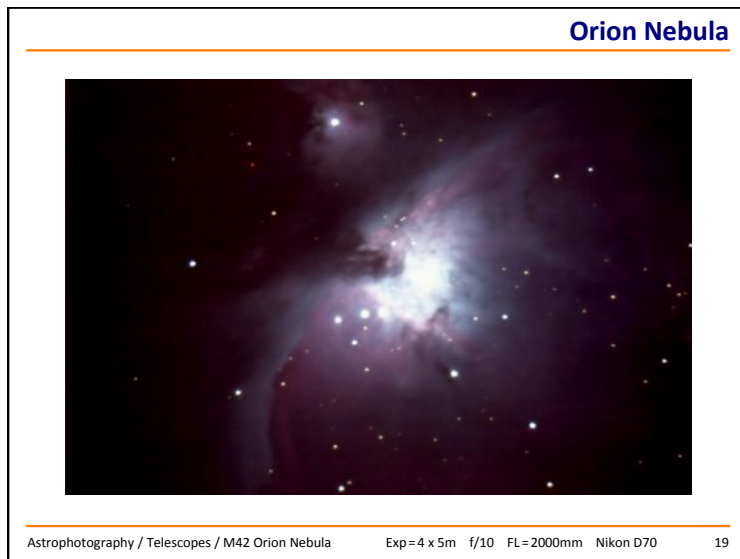
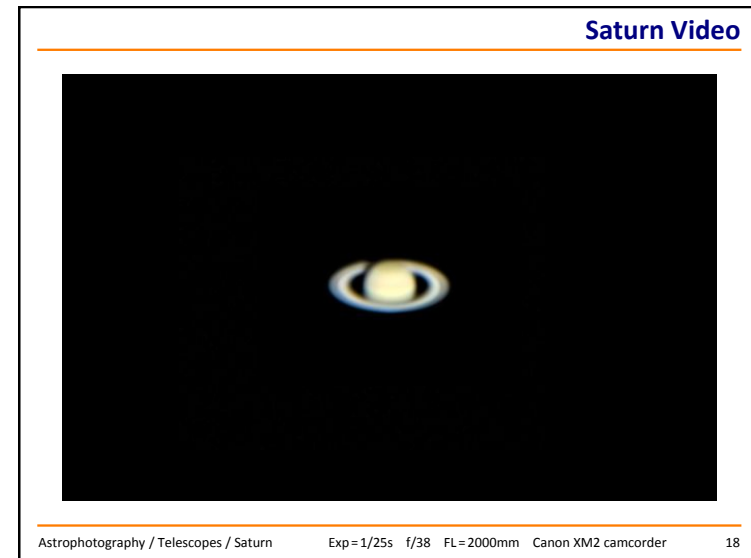
Telescopes



Astrophotography / Telescopes

16

Astrophotography



Astrophotography

Andromeda Galaxy



Astrophotography / Telescopes / Piggy-Backing / M31 Andromeda Galaxy Exp = 2 x 10m f/4 FL = 300mm D70 21

Helix Nebula



Astrophotography / Telescopes / Piggy-Backing / C63 Helix Nebula Exp = 20 x 2m f/4 FL = 300mm D70 22

NGC7000 North America Nebula



Single raw image

20 images stacked in Image SXM

Colours enhanced in GraphicConverter

Taken with a Nikon D200 DSLR with a Sigma 100-300mm lens. Each exposure is 120s at f/4. © Steve Barrett 2012

Markarian's Chain



Exp = 10 x 2m f/4 FL = 300mm Nikon D200

Astrophotography

