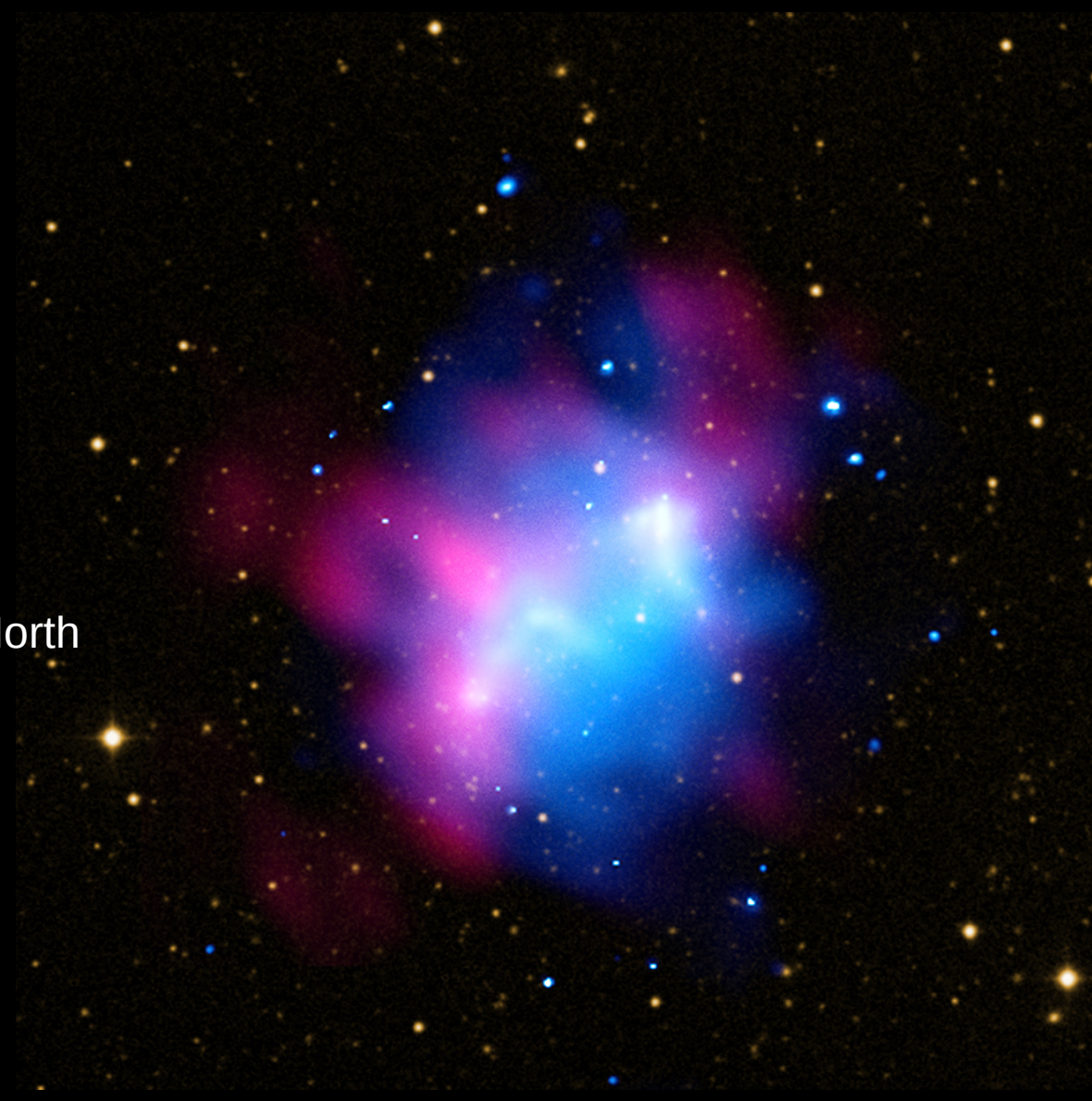
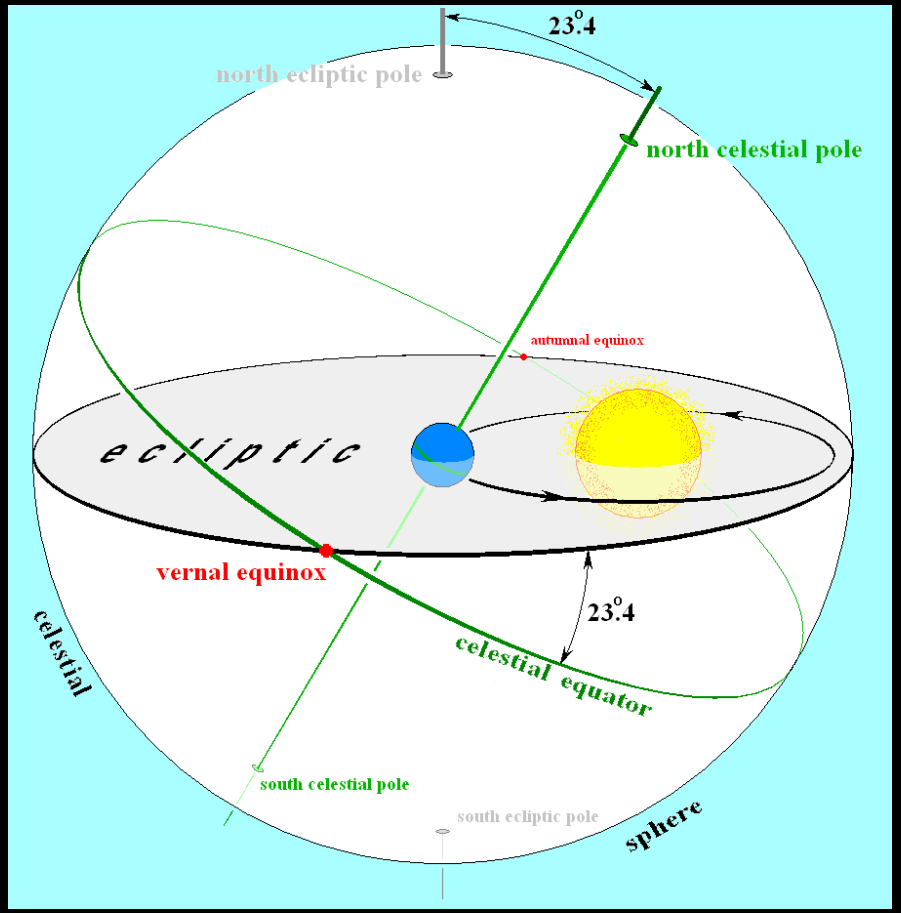
The Skies of Spring



Abell 1758
Galaxy Cluster
~3.2 billion ly
in Canes Venatici, dogs of the Hunt
in directon of Ursa Major (Big Dipper) in North

From http://chandra.harvard.edu

Ecliptic, Equator, and Meridian



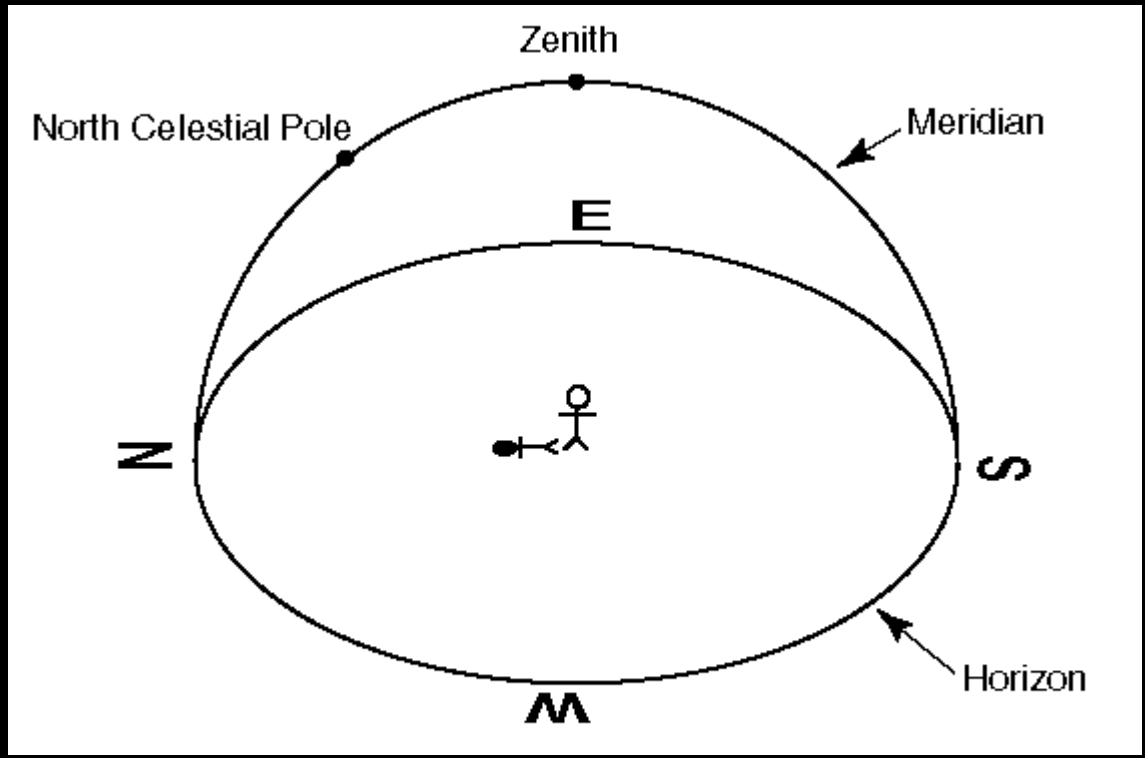


Image from Wikipedia: Attribution-ShareAlike 3.0 Unported (CC BY-SA 3.0)

Important Dates this Spring

Vernal (Spring) Equinox	March 20, 4:58 p.m. CDT
Full Moon	March 20, 8:43 p.m. CDT

Date of Easter: 1st Sunday after 1st Full Moon after Vernal Equinox

So...Easter must be March 24

But, Easter is April 21!

Some History

Julian Calendar in Use -- from the time of Julius Caesar who died on the Ides of March, 44 BCE

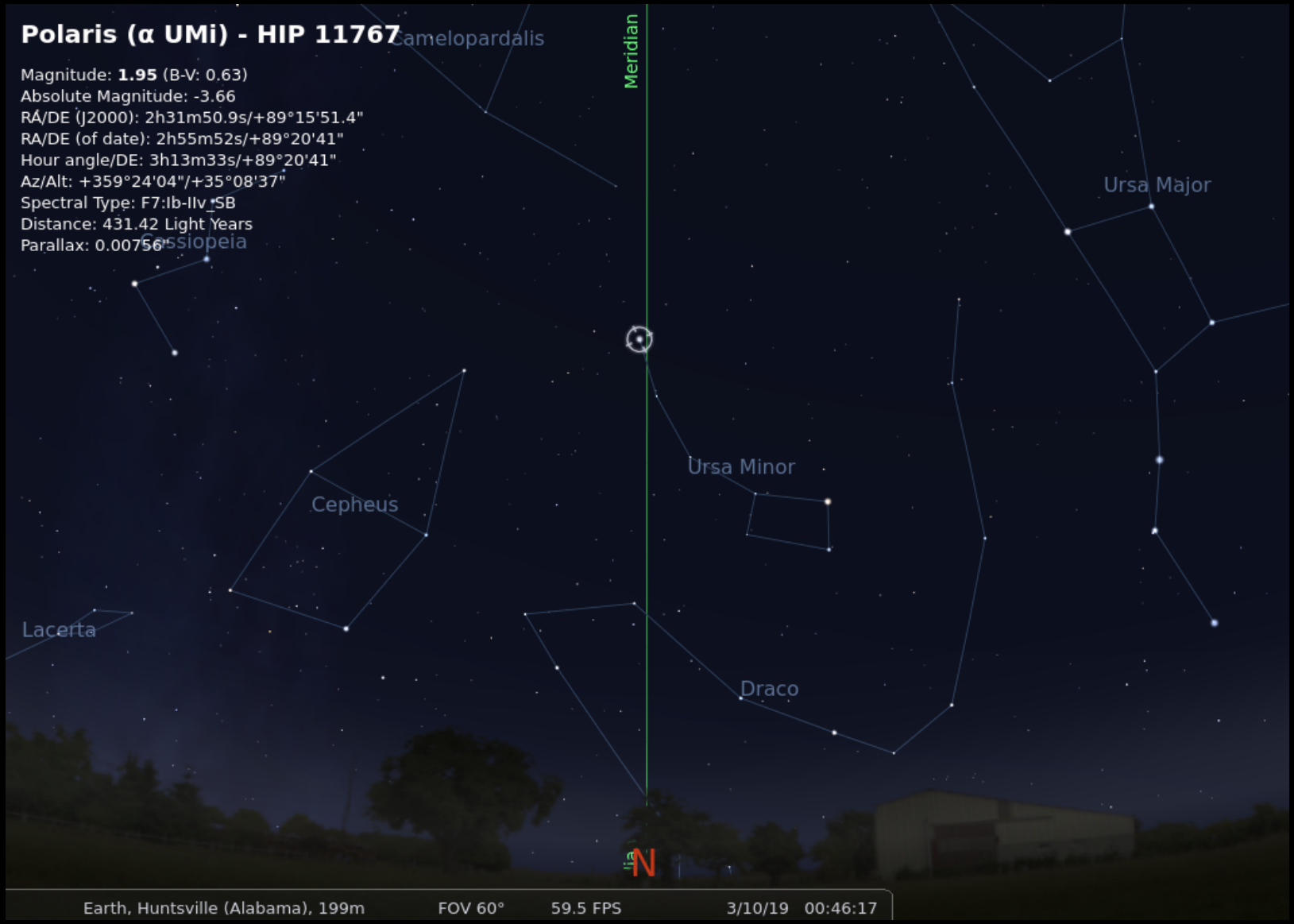
Jewish Lunar Calendar in Use

325 CE First Council of Nicaea
Decided not to use the Jewish calendar

1582 CE Gregorian Calendar Replaced the Julian

Now to Determine the Date of Easter, Vernal Equinox is SET to March 21

Constellations and Bright Stars


Polaris (α UMi) - HIP 11767
Magnitude: 1.95 (B-V: 0.63)
Absolute Magnitude: -3.66
RA/DE (J2000): 2h31m50.9s/+89°15'51.4"
RA/DE (of date): 2h55m52s/+89°20'41"
Hour angle/DE: 3h13m33s/+89°20'41"
Az/Alt: +359°24'04"/+35°08'37"
Spectral Type: F7:Ib-IIv SB
Distance: 431.42 Light Years
Parallax: 0.00756"
Camelopardalis
Meridian
Ursa Major
Cassiopeia
Ursa Minor
Cepheus
Lacerta
Draco
N
Earth, Huntsville (Alabama), 199m
FOV 60°
59.5 FPS
3/10/19 00:46:17

Kepler Space Telescope

First Light Image

From 2009 - 2016 Discovered
More Than 1200 exoplanets
in the Direction of
Draco, Cygnus, and Lyra

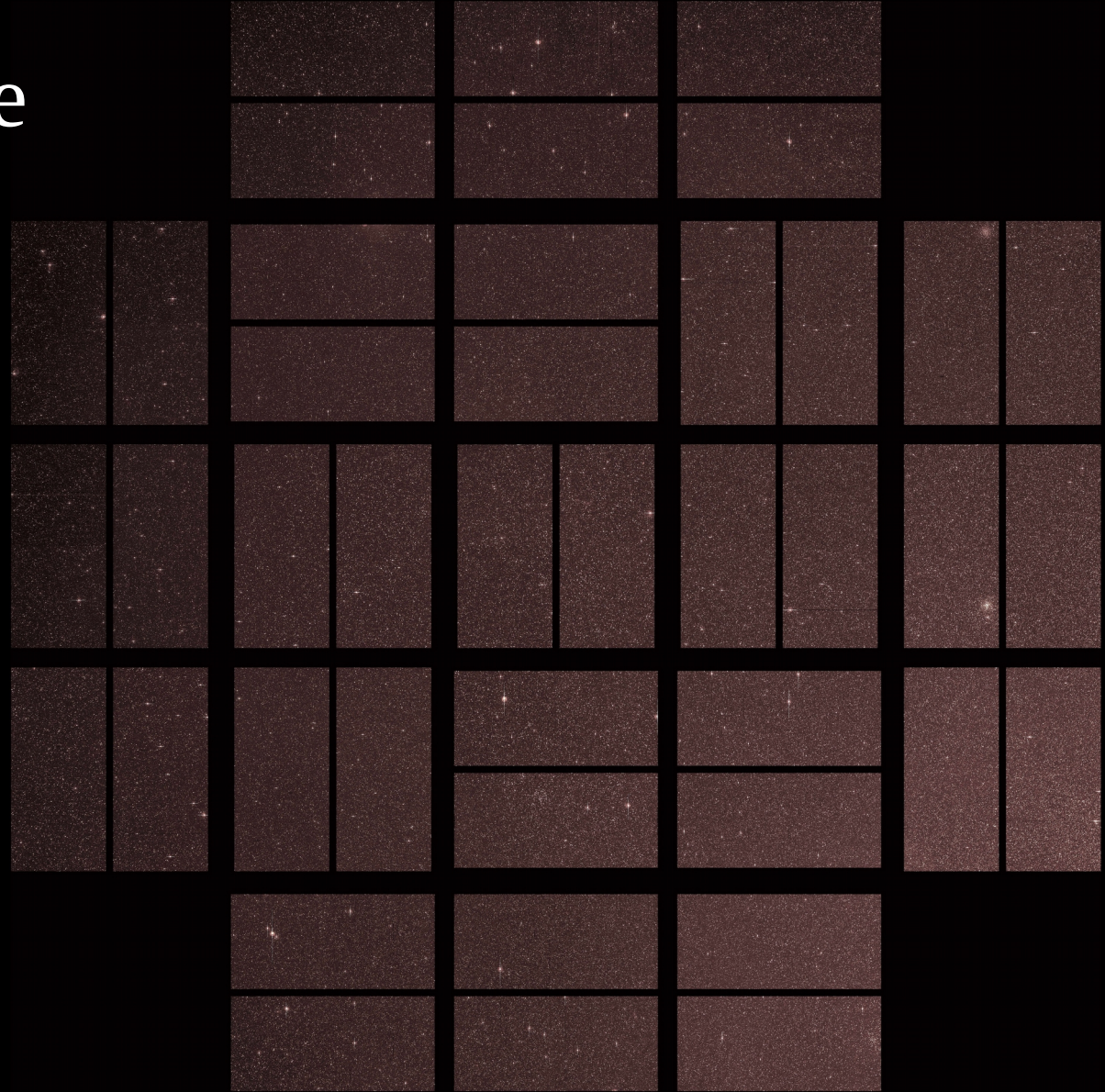
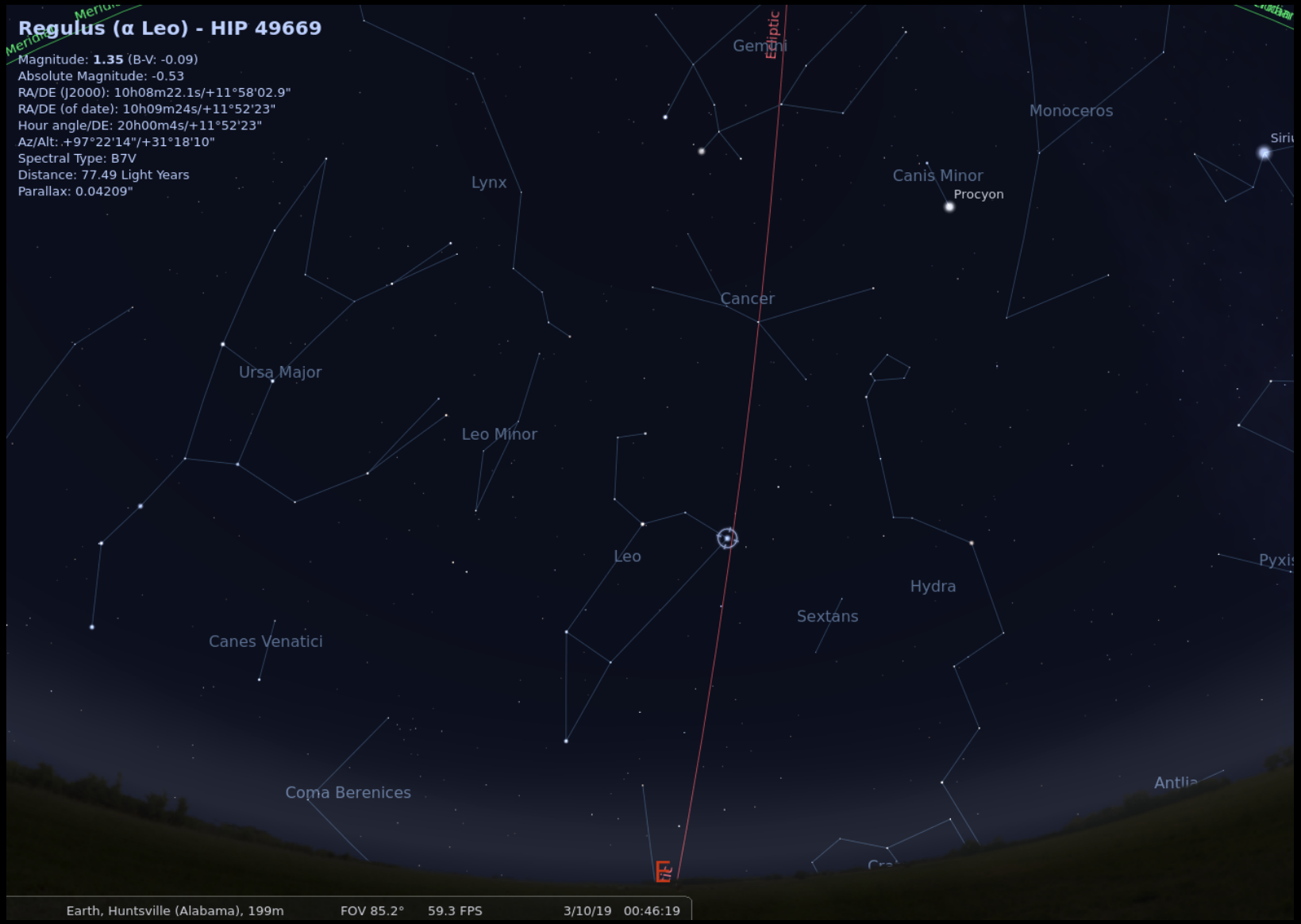
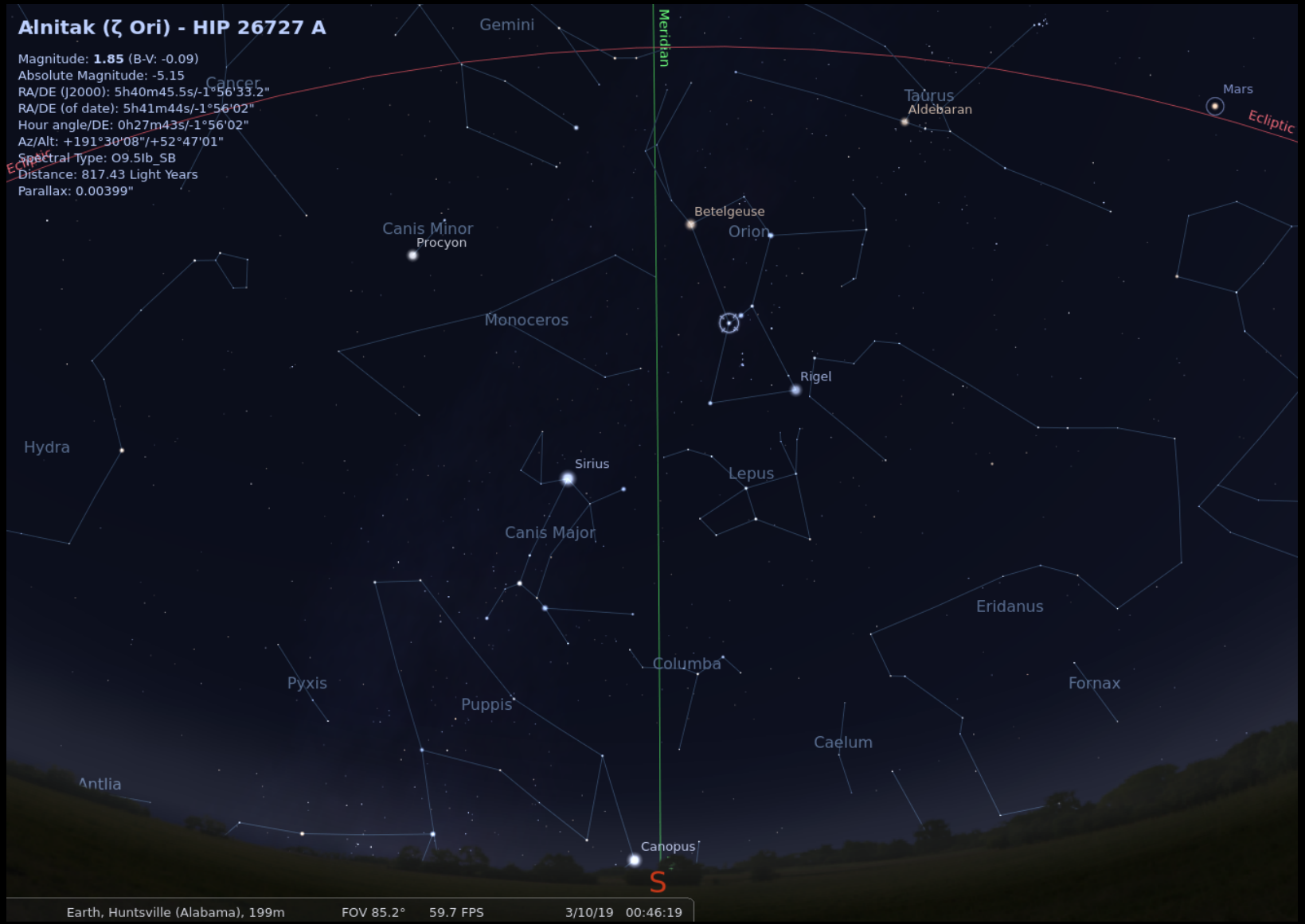


Image Credit: NASA/Ames/J. Jenkins


Regulus (α Leo) - HIP 49669
Magnitude: 1.35 (B-V: -0.09)
Absolute Magnitude: -0.53
RA/DE (J2000): 10h08m22.1s/+11°58'02.9"
RA/DE (of date): 10h09m24s/+11°52'23"
Hour angle/DE: 20h00m4s/+11°52'23"
Az/Alt: +97°22'14"/+31°18'10"
Spectral Type: B7V
Distance: 77.49 Light Years
Parallax: 0.04209"
Ecliptic
Gemini
Monoceros
Lynx
Canis Minor
Procyon
Cancer
Ursa Major
Leo Minor
Leo
Hydra
Sextans
Canes Venatici
Coma Berenices
Earth, Huntsville (Alabama), 199m
FOV 85.2°
59.3 FPS
3/10/19 00:46:19


Alnitak (ζ Ori) - HIP 26727 A
Magnitude: 1.85 (B-V: -0.09)
Absolute Magnitude: -5.15
RA/DE (J2000): 5h40m45.5s/-1°56'33.2"
RA/DE (of date): 5h41m44s/-1°56'02"
Hour angle/DE: 0h27m43s/-1°56'02"
Az/Alt: +191°30'08"/+52°47'01"
Spectral Type: O9.5Ib_SB
Distance: 817.43 Light Years
Parallax: 0.00399"
Gemini
Meridian
Cancer
Taurus
Aldebaran
Mars
Ecliptic
Betelgeuse
Canis Minor
Procyon
Orion
Monoceros
Rigel
Hydra
Sirius
Lepus
Canis Major
Eridanus
Columba
Pyxis
Puppis
Fornax
Caelum
Antlia
Canopus
S
Earth, Huntsville (Alabama), 199m
FOV 85.2°
59.7 FPS
3/10/19 00:46:19

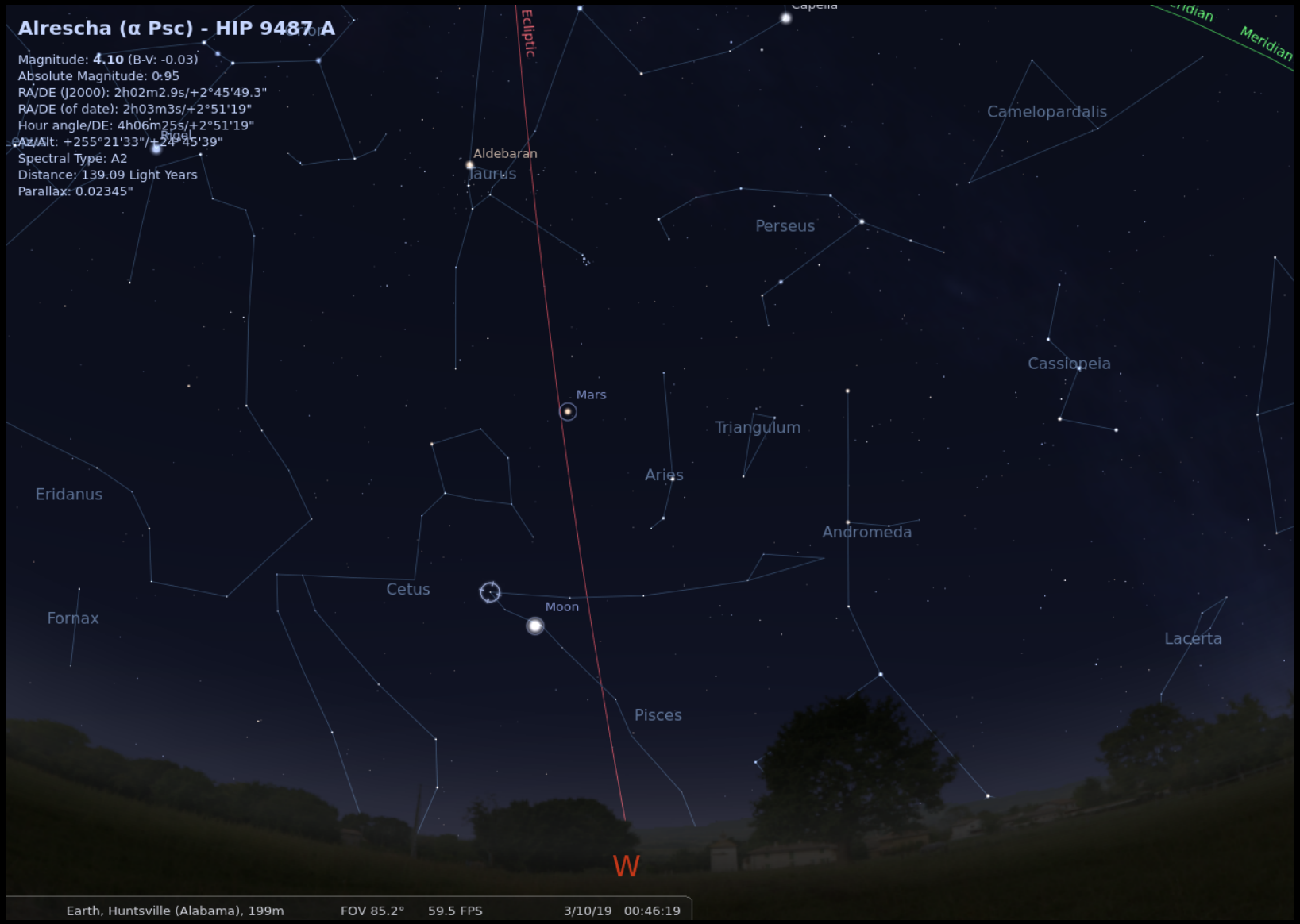
The Hyades Cluster in the News

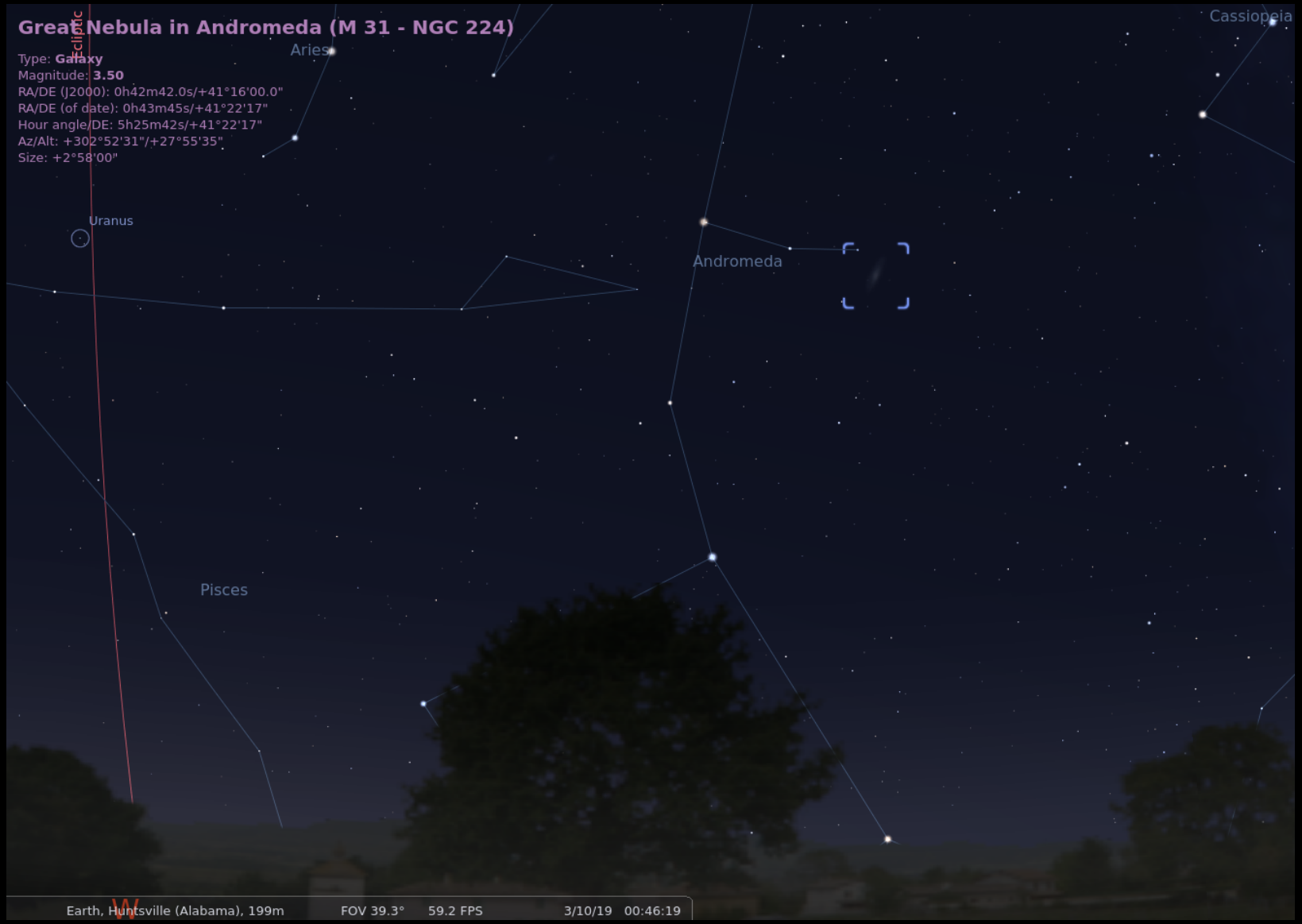
GAIA European Satellite Shows Hyades Breaking Apart
(See Sky and Telescope - story from February 26, 2019)

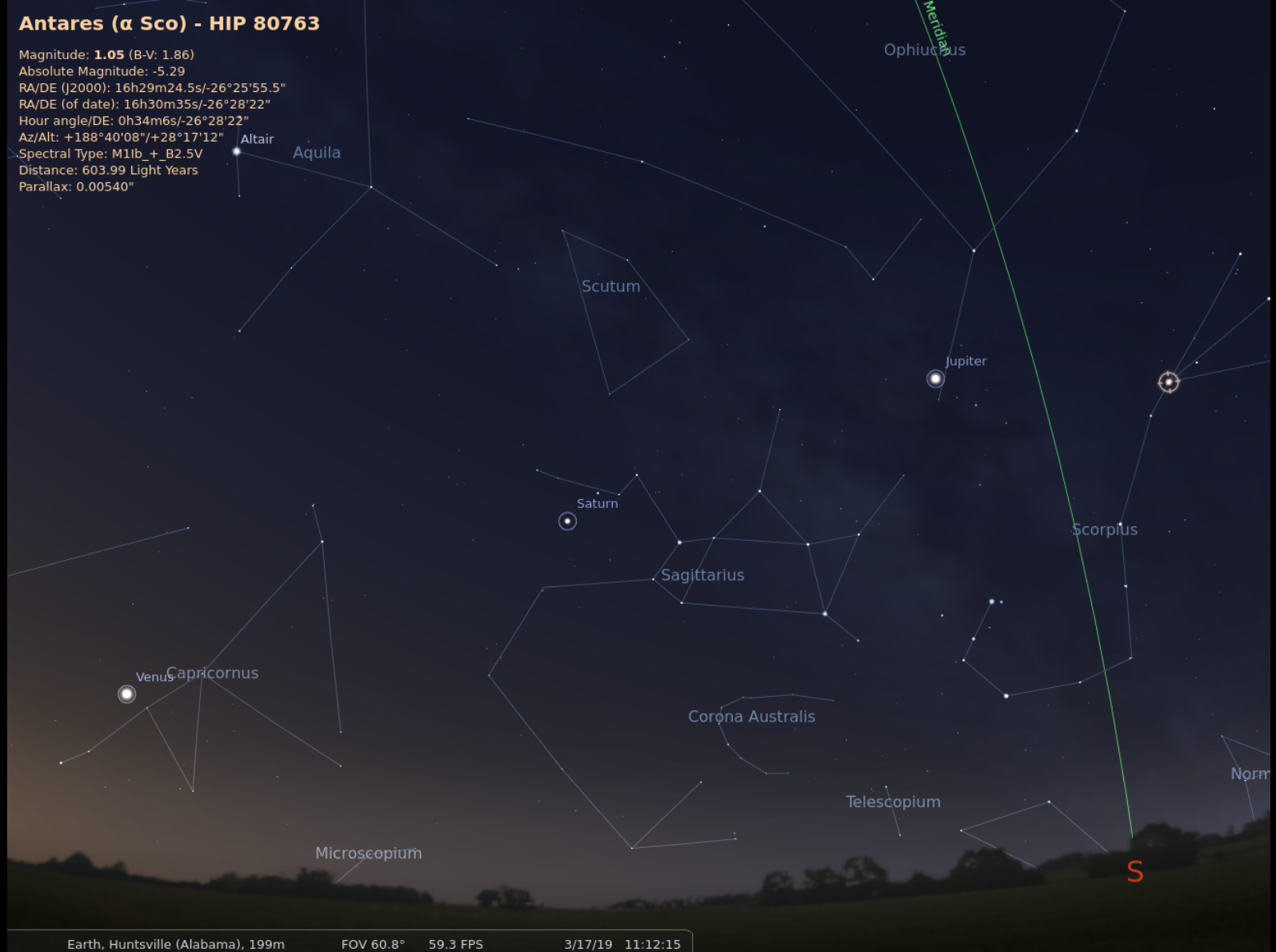
Citizen Scientists Thomas Jacobs and Daryll LaCourse Discover New Planet in Hyades Cluster Using K2 (Kepler 2) Data
Confirmed by Andrew Mann and Colleagues of University of Texas, Austin
(See Story at https://mcdonaldobservatory.org/news/releases/20160224)

Hyades Cluster Closest Open Cluster to Earth -- very young stars
New Planet Orbits Red Dwarf, 4 Times Earth Size


Capella (α Aur) - HIP 24608
Magnitude: 0.05 (B-V: 0.79)
Absolute Magnitude: -0.51
RA/DE (J2000): 5h16m41.6s/+45°59'48.0"
RA/DE (of date): 5h18m7s/+46°00'59"
Hour angle/DE: 0h37m41s/+46°00'59"
Az/Alt: +330°33'13"/+76°37'42"
Spectral Type: M1:_comp
Distance: 42.20 Light Years
Parallax: 0.07729"
Meridian
Camelopardalis
Andromeda
Leo Minor
Lynx
Perseus
Triangulum
Capella
Auriga
Aries
Cancer
Gemini
Mars
Taurus
Aldebaran
Canis Minor
Procyon
Betelgeuse
Orion
Monoceros
Meridian
Rigel
Earth, Huntsville (Alabama), 199m
FOV 85.2°
59.6 FPS
3/10/19 00:32:42


Alrescha (α Psc) - HIP 9487 A
Magnitude: 4.10 (B-V: -0.03)
Absolute Magnitude: 0.95
RA/DE (J2000): 2h02m2.9s/+2°45'49.3"
RA/DE (of date): 2h03m3s/+2°51'19"
Hour angle/DE: 4h06m25s/+2°51'19"
Az/Alt: +255°21'33"/+24°45'39"
Spectral Type: A2
Distance: 139.09 Light Years
Parallax: 0.02345"
Ecliptic
Meridian
Capella
Camelopardalis
Aldebaran
Taurus
Perseus
Cassiopeia
Mars
Triangulum
Aries
Eridanus
Andromeda
Cetus
Moon
Fornax
Lacerta
Pisces
W
Earth, Huntsville (Alabama), 199m
FOV 85.2°
59.5 FPS
3/10/19 00:46:19


Great Nebula in Andromeda (M 31 - NGC 224)
Type: Galaxy
Magnitude: 3.50
RA/DE (J2000): 0h42m42.0s/+41°16'00.0"
RA/DE (of date): 0h43m45s/+41°22'17"
Hour angle/DE: 5h25m42s/+41°22'17"
Az/Alt: +302°52'31"/+27°55'35"
Size: +2°58'00"
Ecliptic
Aries
Cassiopeia
Uranus
Andromeda
Pisces
Earth, Huntsville (Alabama), 199m
FOV 39.3°
59.2 FPS
3/10/19 00:46:19


Antares (α Sco) - HIP 80763
Magnitude: 1.05 (B-V: 1.86)
Absolute Magnitude: -5.29
RA/DE (J2000): 16h29m24.5s/-26°25'55.5"
RA/DE (of date): 16h30m35s/-26°28'22"
Hour angle/DE: 0h34m6s/-26°28'22"
Az/Alt: +188°40'08"/+28°17'12"
Spectral Type: M1Ib_+_B2.5V
Distance: 603.99 Light Years
Parallax: 0.00540"
Altair
Aquila
Meridian
Ophiuchus
Scutum
Jupiter
Saturn
Scorpius
Sagittarius
Venus
Capricornus
Corona Australis
Telescopium
Microscopium
S
Earth, Huntsville (Alabama), 199m
FOV 60.8°
59.3 FPS
3/17/19 11:12:15

Jupiter -- In the News
Actually, Ganymede and Europa

With a Telescope

March 23	2:57 am CDT	Shadow of Ganymede (larger) begins disk crossing
	4:10 am	Shadow leaves disk
	~3:00 am CDT	Shadow of Europa begins disk crossing
	5:30 am	Shadow leaves disk