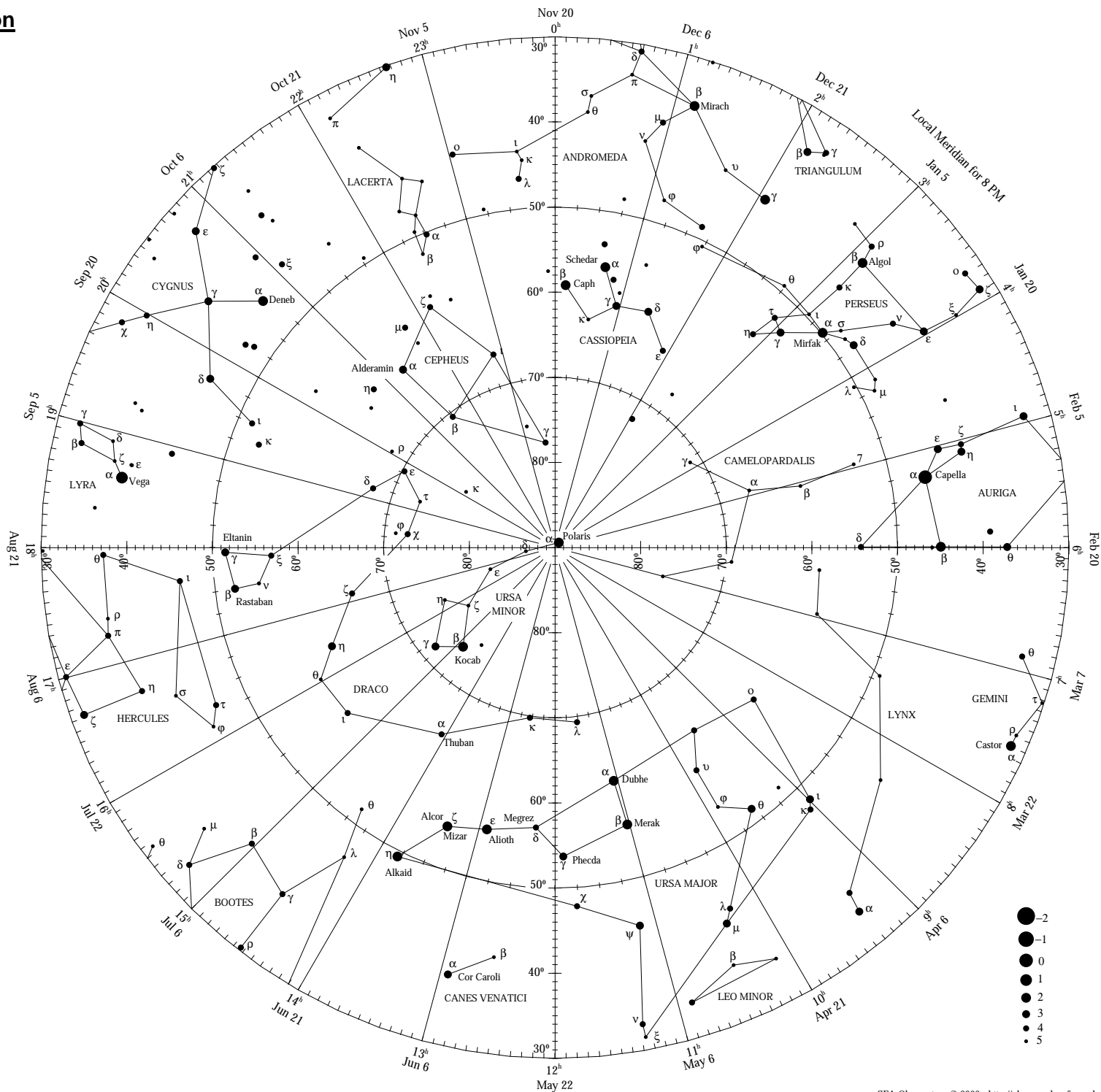


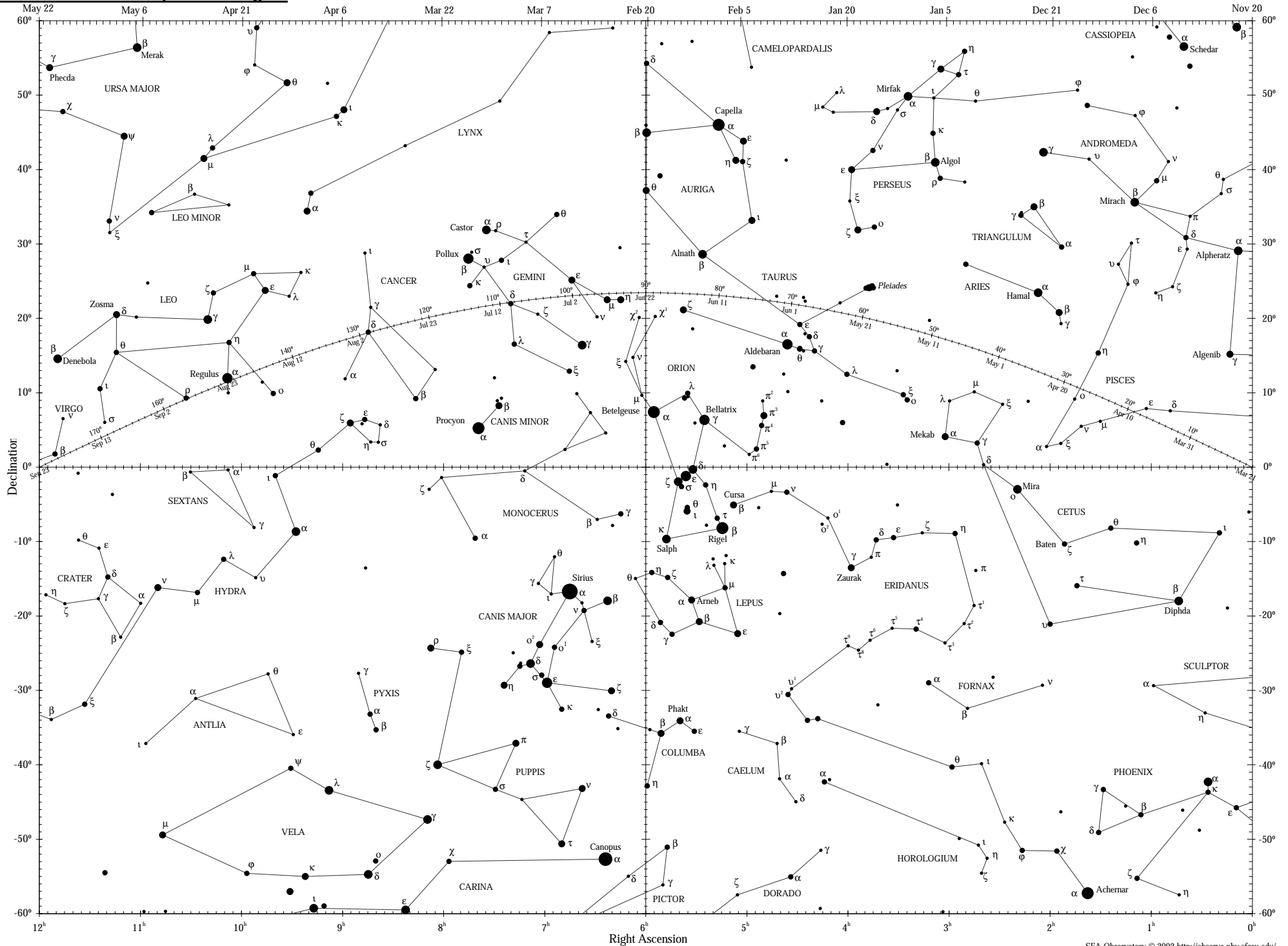
# SFA Star Chart 1 - Northern Region

- ANDROMEDA - Daughter of Cepheus and Cassiopeia
- ANTLIA - Air Pumpe
- APUS - Bird of Paradise
- AQUILA - Eagle
- AQUARIUS - Water Carrier
- ARA - Altar
- ARIES - Ram
- AURIGA - Charioteer
- BOOTES - Herdsman
- CAELUM - Graving Tool
- CAMELOPARDALIS - Giraffe
- CAPRICORNUS - Sea Goat
- CARINA - Keel of the Ship Argo
- CASSIOPEIA - Ethiopian Queen on a Throne
- CENTAURUS - Half horse and half man
- CEPHEUS - Ethiopian King
- CETUS - Whale
- CHAMAELEON - Chameleon
- CIRCINUS - Compasses
- CANIS MAJOR - Larger Dog
- CANIS MINOR - Smaller Dog
- CANCER - Crab
- COLUMBA - Dove
- COMA BERENICES - Berenice's Hair
- CORONA AUSTRALIS - Southern Crown
- CORONA BOREALIS - Northern Crown
- CRATER - Cup
- CRUX - Cross
- CORVUS - Crow
- CANES VENATICI - Hunting Dogs
- CYGNUS - Swan
- DELPHINUS - Dolphin
- DORADO - Goldfish
- DRACO - Dragon
- EQUULEUS - Little Horse
- ERIDANUS - River
- FORNAX - Furnace
- GEMINI - Twins
- GRUS - Crane
- HERCULES - Hero
- HOROLOGIUM - Clock
- HYDRA - Sea Serpent
- HYDRUS - Water Snake
- INDUS - Indian



# SFA Star Chart 2 - Equatorial Region

Local Meridian for 8 PM

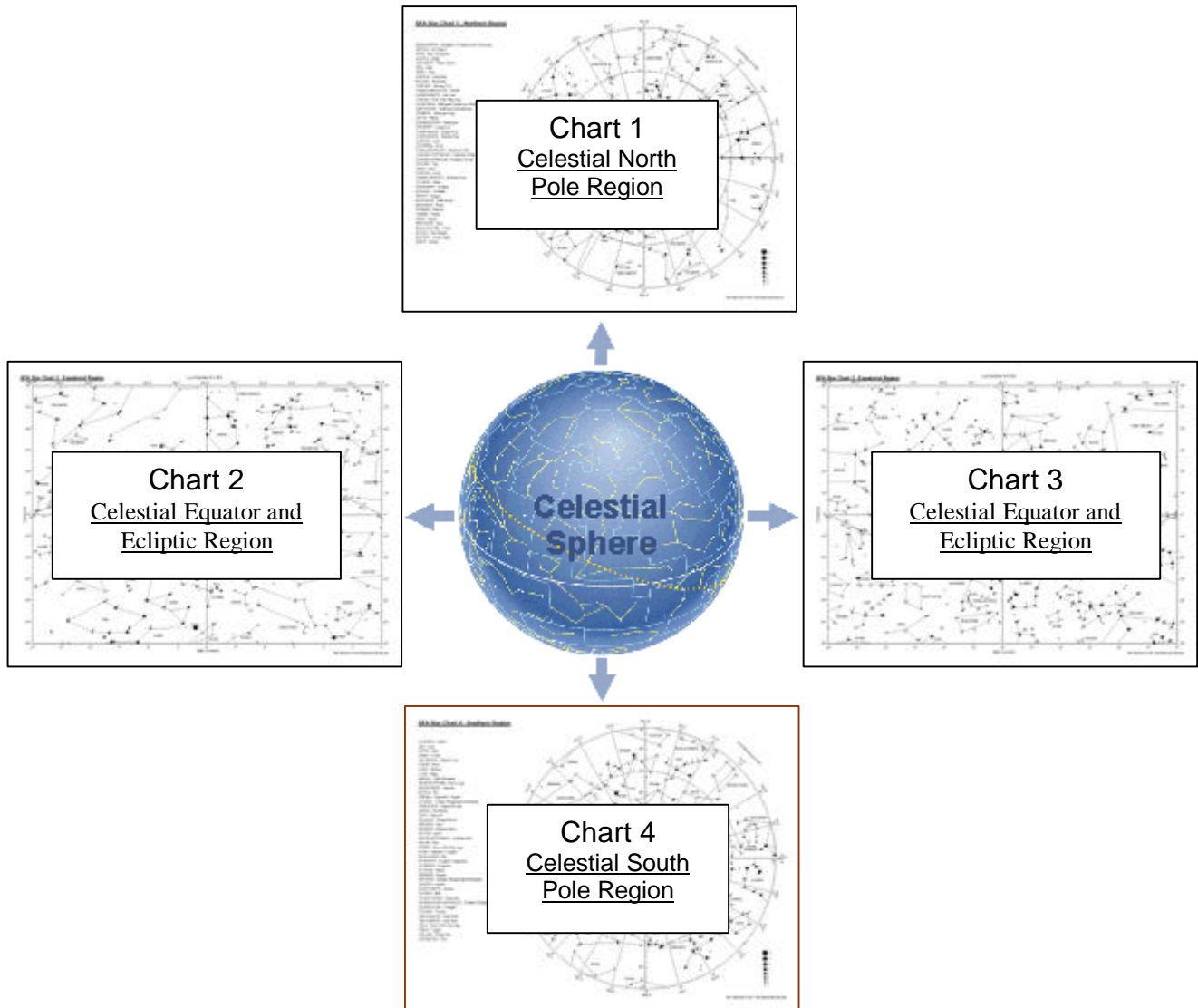






# Using the SFA Star Charts

The charts provided cover the entire celestial sphere. You will notice that there are regions where the charts overlap. For example, Perseus can be found on both Chart 1 and Chart 2.



The procedures outlined on the next page are for observers in the northern hemisphere. Chart 4 is not needed for these observers.

## Right Ascension and Declination

The coordinates of stars and other objects on the celestial sphere are called right ascension and declination. These coordinates are similar to those used on Earth: longitude and latitude. Right ascension is measured in hours, declination is measured in degrees. You may notice that 24 hours of right ascension corresponds to 360 degrees, or simply that 1 hour of right ascension is 15 degrees.

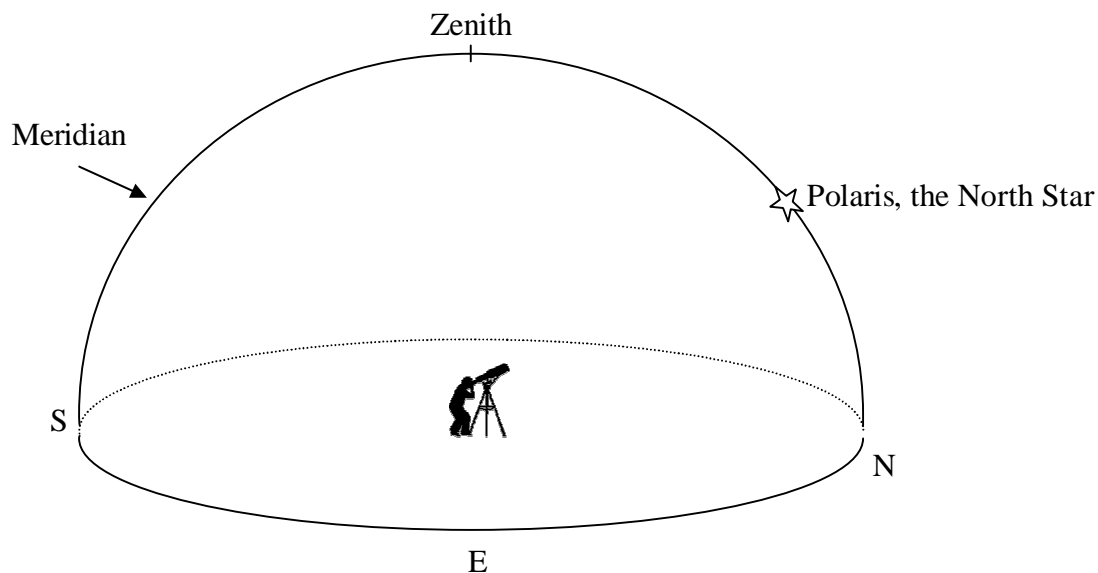
### Procedure for using Chart 1:

- (1) Face North.
- (2) Find the meridian in the sky and on the Chart 1 using the date and time.
- (3) Find the field of view on the Chart 1 and compare the stars seen on the chart with those in the sky.

The meridian in the sky is an imaginary curve that passes through the north horizon, the north star, the point directly overhead (zenith), and the south horizon as shown below. Note that Polaris is *not* the brightest star in the sky. You can use Dubhe and Merak of Ursa Major as pointer stars to help you find Polaris.

The meridian on Chart 1 can be located using the date and time. The dates along outer edge of the Chart 1 represent the location of the meridian. If Chart 1 is oriented so that the date appears at the *top*, then a line passing through the date and Polaris is the meridian at 8:00pm local time. For every hour after 8:00pm the meridian moves to the clockwise by one hour of right ascension.

The field of view on the Chart 1 includes roughly all objects above the *north horizon line*. The north horizon line is a line perpendicular to the meridian on Chart 1 and intersects the meridian at a point  $32^\circ$  below Polaris. (Replace  $32^\circ$  with your latitude if you are not observing from the SFA Observatory.)



### Procedure for using Charts 2 and 3:

- (1) Face South. Place Charts 2 and 3 side by side.
- (2) Find the meridian in the sky and on Chart 2 or 3 using the date and time.
- (3) Find the field of view on the Charts 2 and 3 and compare the stars seen on the chart with those in the sky.

The meridian on Charts 2 and 3 can be located using the date and time. The dates along the *top* axis of these charts represent the location of the meridian (a vertical line) at 8:00pm local time. For every hour after 8:00pm the meridian moves to the left by one hour of right ascension.

The field of view on these charts includes roughly all objects between a vertical line 6 hours of right ascension to the west (right) of the meridian and a vertical line 6 hours of right ascension to the east (left) of the meridian. These two vertical lines roughly represent the west and east horizon respectively.

The "sine" curve seen when these two charts are placed side by side is known as the *ecliptic* and represents the apparent path of the Sun. The dates along the ecliptic give the location of the Sun on the celestial sphere for the date of interest.