Drift Method for locating NGC 891: Let Earth rotate this galaxy into view

The drift method is useful – even for experienced amateurs – if the observer is unsure as to how the object will appear with the aperture of telescope used, and under the prevailing atmospheric and light pollution conditions. If it can't be seen at the calculated time, then it is likely because of a combination of those three factors.

24 hours of RA exist because 24 hours comprise one full rotation of Earth. This means that, as our planet rotates, an hour in RA passes overhead from east to west for every hour of time on Earth. This also applies for every point on the celestial sphere, not just the zenith.

General Procedure:

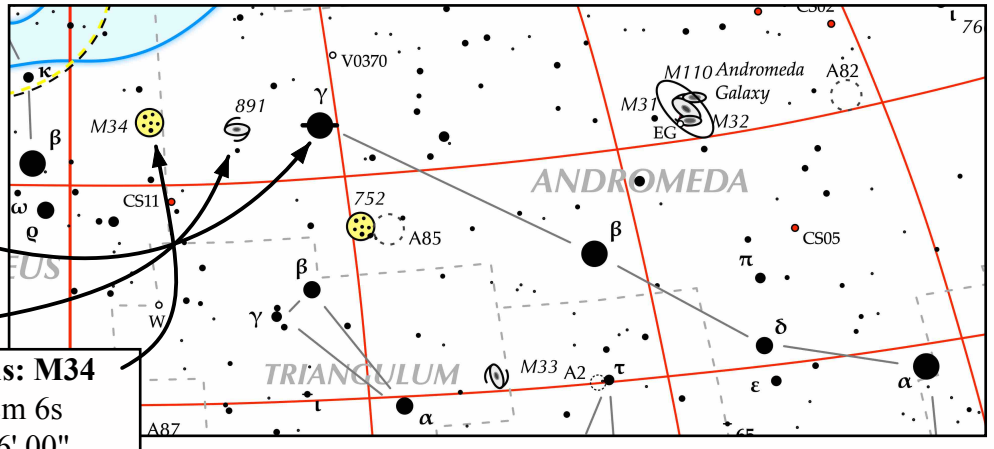
1. Find a star positioned near the same declination as the target, but somewhat to its west.
2. In a reference guide, find the coordinates of the guide star and the target.
3. Calculate the difference of their minutes of RA.
4. Position the star in the center of the field of an eyepiece that gives a wide true field.
5. If the difference in their Declination is 20 to 30 minutes: Move the scope northward by 1/2 field if the target is farther north than the guide star, move it southward by 1/2 field if it is farther south.
6. Wait the calcuated RA time difference. Bingo! The target should have drifted into the center of the eypeice's field. Don't be late or it will have drifted westward out of the field.

Example ...

NGC 891
Magnitude 10.8
Size 13.5 x 2.5 min

Gamma Andromedae
2h 03m 54s
42º 19' 47"

NGC 891
2h 22m 33s



Bonus: M34
2h 42m 6s
42º 46' 00"

Target: NGC 891, a large "edge on" galaxy in eastern Andromeda – a worthy subject.

A. Choose Gamma Andromedae as the guide star. At 2.3 magnitude, it lies at the end of the string of stars that forms the main body of Andromeda.

B. Coordinates:

Gamma Andromedae – RA: 2 hr 03m 54s; Dec: 42º 19' 47"

NGC 891 – RA: 2h 22m 33s; Dec: 42º 20' 57"

C. Declination difference: 1 minute – not much, no need to nudge the telescope.

D. RA difference equals the time wait: 18 m 45 s.

E. Center Gamma Andromedae in the low power eyepiece field (a beautiful double star). Wait 18 m 45 s and NGC 891 will lie in the field. Don't be late!

Bonus: Then nudge the telescope northward about half the eyepiece field and wait another 19 m 30 s. The bright open cluster M34 will have drifted near the center of the field.