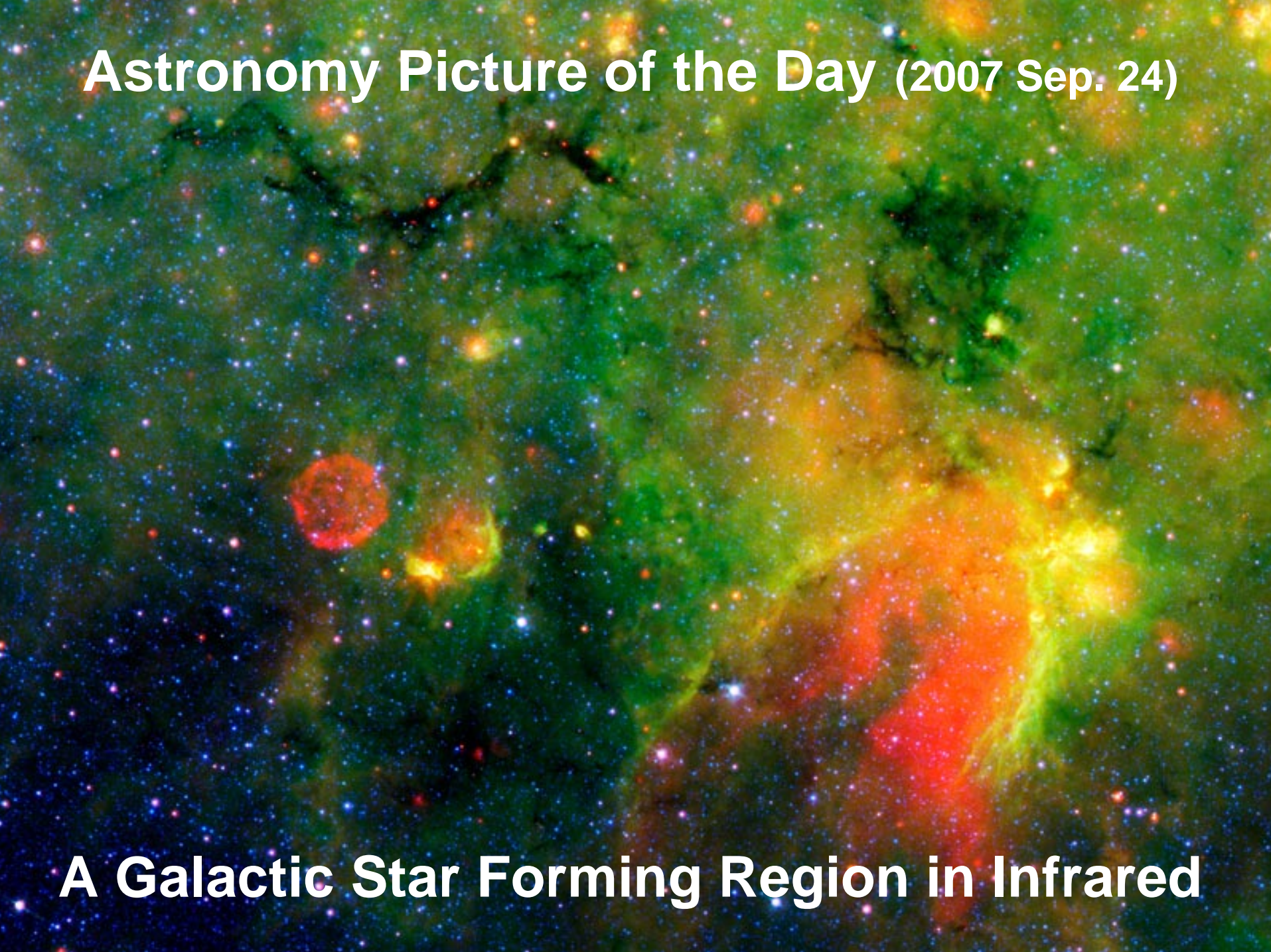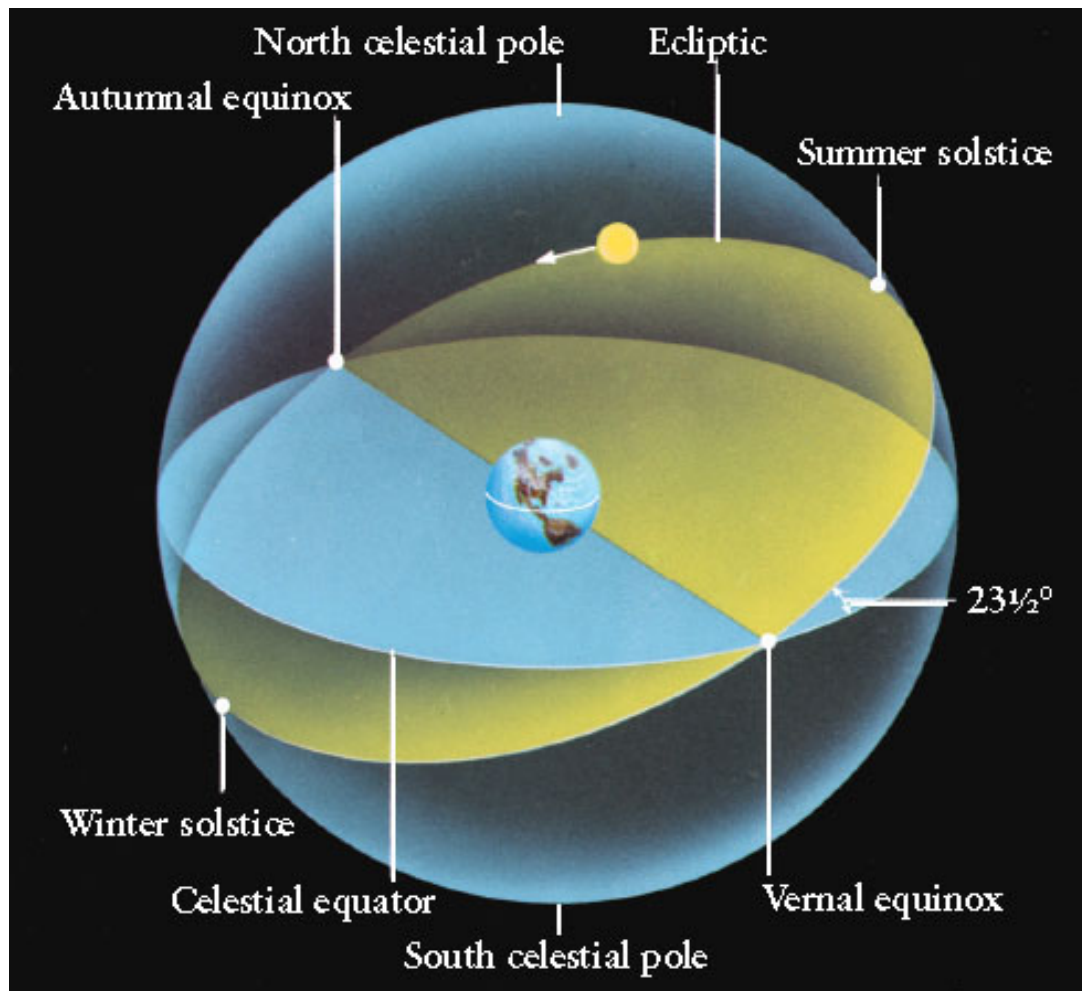**Astronomy Picture of the Day** (2007 Sep. 24)

A Galactic Star Forming Region in Infrared

The Sun crossed the celestial equator heading south at 0951 UT, Sep. 23, 2007.

Peru Meteor Crash (Sep. 16, 2007)

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Advanced Question
Chap. 3, Q31 in P61

(a) The Moon moves noticeably on the celestial sphere over the space of a single night. To show this, calculate how long it takes the Moon to move through an angle equal to its own angular diameter (0.5 deg) against the background of stars. Give your answer in hours.

(b) (b) Through what angles (in degrees) does the Moon move during a 12-hour night? Can you notice an angle of this size?

Advanced Question
Chap. 3, Q31 in P61

Answer:

(1) The sidereal period of the moon is 27.3 days, which takes the moon move 360 deg.

For moving 0.5 deg

T (hrs) = 0.5 (deg) X 27.3 (day) X 24.0 (hr)/(day) / 360 (deg)

= 0.91 hours

(2) In a 12 hour period,

A (deg) = 12 (hr) X 0.5 (deg) / 0.91 (hr) = 6.6 (deg).

This angle is greater than the seperation of the pointer stars in Big Dipper and is certainly noticeable,