



Conjunction of Uranus with 44 Piscium, 2012 September 22/23

I was aware that there was to be an appulse for these two objects and that they were of almost identical magnitude, but recent weather had been so poor as to make the observation unlikely of success. In the event, we had clear skies in Orkney from dawn to dusk, and this image was obtained with my Skywatcher 120mm refractor.

Two of Uranus' satellites are plainly visible. Oberon (mag 13.9) to the right of GSC 3-110 (12.33) and Titania (13.7) below Uranus. On the original image there is an indication above Uranus of Umbriel (14.8). Later images of Uranus have shown that five of the planet's satellites are readily recordable under favourable conditions with a 120mm f/7.5 apochromatic refractor.

The brighter stars in the field are, from left to right: TYC 3-498-1 (8.48); GSC 3-133 (12.84); GSC 3-290 (12.83); 44 Pisc (5.78).

What made this conjunction of special interest?

First, the closeness of the approach itself. At the time of observation the apparent separation was 82". (Minimum separation, 40.5", took place in daylight the following day.) This is below the resolution capability of the average unaided human eye.

Second, the almost identical visual magnitude of the pair. Because of this the combined magnitude would have been approximately 5.5. In other words, in terms of brightness the star and the planet would have appeared as a single, very faint star almost at the threshold of visibility without optical aid.

The third consideration is more difficult to investigate: what is the probability of such a



2012 Sept 22, 23:54 UT. 120mm aperture f/7.5 apochromatic doublet, Nikon D300 SLR at prime focus. 20 sec., ISO 2000. Both Uranus and 44 Piscium are of course excessively over-exposed.

close approach to a star of similar magnitude occurring again in the near future? Working forward to the year 2090, I find only a handful of comparable appulses.

In 2033 Uranus will appear to pass within 17.3" of TYC 1878-1431-1 (mag 6s.57), and in 2066 there will be a close conjunction (13.2") with TYC 6213-1943-1 (mag 6.42). As will be seen, despite the separations being a deal smaller, the magnitudes are more disparate.

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