

Re: moonrise and time offset

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I believe this is referring to the Full Moon, but the idea works for any phase.

The basic reason is because the Moon does not orbit the Earth in the same plane as the Earth orbits the Sun. Thus the Moon's declination can change rapidly from day to day, or slowly, depending on where the moon is on the celestial grid. And the declination change can have a large effect on rise/set time.

I seem to recall that at high latitudes the effect can be so extreme that the moon can rise EARLIER than the day before!

There are other effects, such as the speed at which the Moon orbits at any given point, due to its elliptical orbit, but the first reason I gave is the primary one.

The Sun does have this same effect, but it is not so pronounced. At the beginning of Summer for example, the Sun rises and sets at almost the same time every day. When Autumn starts, the difference between the rise/set times can be 2 minutes per day here in the middle latitudes.

If you look at a star map and project the motion of the Sun or the Moon at various times, you can get an idea of what I'm talking about.

Joerg Szczepek wrote:

> *Dear forum,*
>
> *a popular science book told me that the time offset between the*
> *moonrises on two following days, that can be as long as 90 minutes in*
> *spring and as short as 25 minutes in autumn, is due to the inclination*
> *of the earth's axis. But if that's true, why don't the sunrises have*
> *such an offset as well as the sun should suffer from that same*
> *inclination ? I hope anybody can give me some insight about the*
> *problem.*
>
> *Jörg*

sci.astro.amateur: Re: moonrise and time offset

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Tom Rankin - Programmer by day, amateur astronomer by night!

Mid-Hudson Astronomy Association - <http://mhaa.whodeanie.com>

Views and Brews - <http://viewsandbrews.com>

When replying, remove the capital letters from my email address.