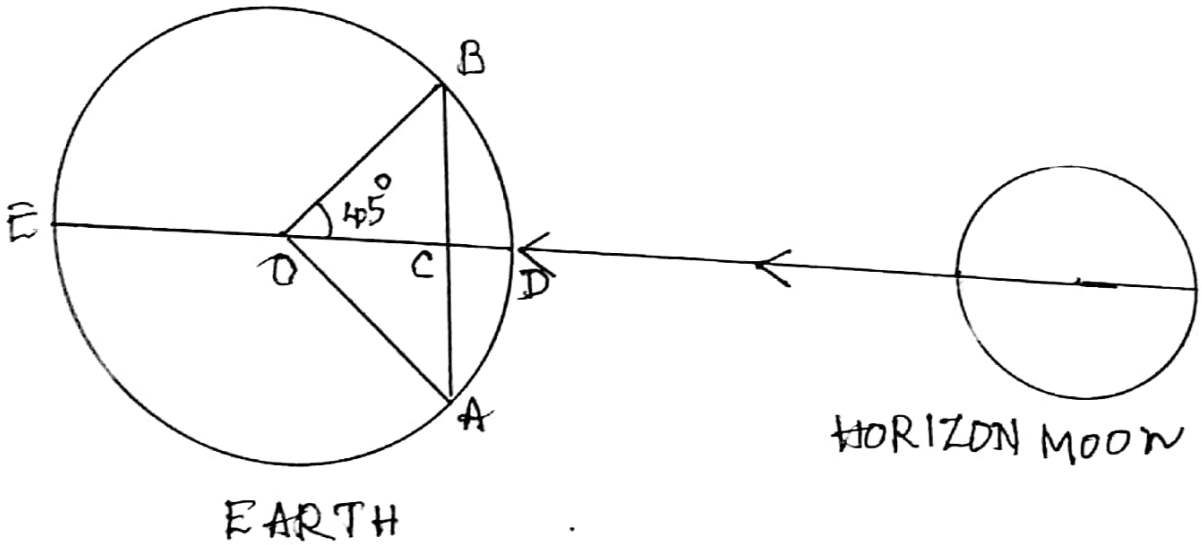
Shiva Shivaa

THE EXACT TI SOLVES THE MOON ILLUSION (341st Proof on Rho) MYSTERY

The Moon illusion is age old mystery. What is Moon illusion? The moon seems larger in angular size when it is near the horizon than when it is high in the sky.

When the Moon is Closest the Earth its angular size is about 11 % larger than when it is most distant.

Mathematical Analysis : Curvature Effect



Circle : Diameter = 1 = ED

Radius : $\frac{1}{2}$ = OB = OA = OD

Triangle : BOA

Hypotenuse = AB = OA × $\sqrt{2}$ = Chord

= $\frac{1}{2} \times \sqrt{2} = \frac{\sqrt{2}}{2}$

Arc = BDA = $\frac{\text{Circumference}}{4}$

When diameter is equal to 1, the Circumference is equal to π.

So, BDA arc = $\frac{\pi}{4}$

EXACT π Called Rho is equal to $\frac{16-\sqrt{2}}{4}$

Then $\frac{\pi}{4} = \frac{14-\sqrt{2}}{4} \times \frac{1}{4} = \frac{14-\sqrt{2}}{16}$

The arc is a curvature.

In the case of SPHERE, light rays falling on Earth surface is influenced by the curvature of the Sphere. It is called Curvature Effect.

How to know the Curvature Effect?

It is very simple. Here is the formula = $\frac{\text{Arc length}}{\text{Chord length}}$

$$\frac{\text{Arc length}}{\text{Chord length}} = \frac{16-\sqrt{2}}{\frac{16}{\frac{\sqrt{2}}{2}}} = \frac{2(16-\sqrt{2})}{16\sqrt{2}}$$

$$= \frac{16-\sqrt{2}}{8\sqrt{2}} = 1.112436867 09$$

When the diameter is equal to 1 the curvature effect is equal to 1.112436867 09

What is the percentage effect?

$$\frac{1}{1.112436867 09}$$

Difference $= 1.112436867 09 - 1$

$= 0.112436867 09$

$$\text{Percentage} = \frac{1}{100} \text{ —— } \frac{0.112436867 09}{?}$$

$$\frac{100}{1} \times 0.112436867 09 = 11.24368670 9$$

So, $11.24368670 9\%$.

We know, when the moon is closest the Earth, its angular size is about 11% larger.

This mathematical analysis agrees with the reality of 11% angular difference.

A personal note

(1) This author faced and questioned himself 2 questions. (at PILER) Year 1972 he challenged himself that Area and Circumference of a Circle Can be Calculated Without π Value. By the grace of God he succeeded in March 1996. The formulae are

$$\text{Area} = r\left(\frac{7r}{2} - \frac{\sqrt{2}\,r}{4}\right)$$

$$\text{Circumference} = 6r + \frac{2r - \sqrt{2}\,r}{2}$$

Where r = radius of circle

(2) Around 1986 he asked himself (at ANANTAPUR) why there is difference in the Size of Moon at Horizon and Zenith. By the grace of God here is the answer.

Thank God

SarvaJagannadha Reddy
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