

Answer on Question #68311-Physics- Mechanics | Relativity

Why did you use the earth's gravity for this problem when this satellite is orbiting the Earth rather than an object present on Earth?

Answer

The satellite is orbiting the Earth due to the gravitational field of Earth. Thus,

$$m_{\text{satellite}}a = G \frac{M_{\text{Earth}}m_{\text{satellite}}}{r^2},$$

where r is the distance between the satellite and the center of the Earth.

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