

# 'Supermoon' today will be a visual treat

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**Pune:** The biggest and brightest full moon of 2012 will be visible on Sunday when the moon will come closest to Earth (perigee) while orbiting it.

The term 'supermoon' was coined in 1979 to describe a full moon that coincides with perigee, something that happens once a year.

"The distance between Earth and the moon on Sunday will be 3,56,955 km, while the angular size of the moon will be 0.5515 degrees. The exact time of the moon, Earth and sun coming in nearly a straight line is at five minutes past nine in the night. But the moon will still look fairly large earlier in the evening when it will rise about an hour after sunset," Arvind Paranjpye, director of Nehru Planetarium in Mumbai, said.



**Sunday's biggest and brightest full moon of the year is because Earth's celestial neighbour is closest while orbiting it**

It will look large on the horizon which becomes a reference point for the eye. Later in the night, when it will be among the stars, it will not appear as large.

The full moon on November 28 will be the farthest in this calendar year.

"On that day, the moon will be 4, 06,349 km from Earth and its angular size will be 0.4942 degrees. Thus, the full moon on Sunday will be about 11 % bigger than the one on November 28. However, one cannot perceive this change easily with the naked eyes, especially when the two events are placed so far apart. One can take a digital image on Sunday and then take another one on November 28," Paranjpye said, adding that the comparison of the apparent sizes will be striking.

Johannes Kepler, the 17th century astronomer discovered that the planets do not move around the sun in circular orbits, but in elliptical orbits.

"The moon also orbits the earth in an elliptical orbit. Thus, the distance of the moon from Earth changes continuously. As a result of this, the apparent size of the moon also changes in a systematic fashion," he said.

Paranjpye added that tides are affected by the gravitational attraction of the moon and sun.

"At the time of a full moon, all three are nearly in a straight line, which is called syzygy. As on the 'supermoon' night, the moon is rather close to Earth and in line with the sun, which affects high tides," he added.