Meteors

Some branches of astronomy do not need any optical instruments. The so-called shooting stars can be observed with the naked eye. But it is not right to call them shooting stars because they are not stars at all.

They are meteors, very small particles of matter. They may become luminous when they enter the earth's upper atmosphere and travel through it at a very high speed. It may be no less than twenty miles per second.

Meteors reach great degrees of incandescent heat because of friction between themselves and the atmosphere. They first become red and then white hot. In the end most of them vapourize and burn out, disappearing from view.

We can usually see meteors only at night, but radar shows that they enter our atmosphere at all time of day and night.

The meteors meeting the Earth in its orbit enter the atmosphere with a higher total velocity. The velocity in such cases is a sum of the Earth's and the meteor's velocities. They leave behind a short bright trail as a result.

The meteors that come in from behind the Earth move slower. It takes them longer to burn out. They have red trails.

The total number of the meteors enter­ing the Earth's at­mosphere during a year is probably several million. They become visible at the distance of between 50 and 100 miles up in the atmosphere.

The meteors can be seen almost every hour of the night if it is cloudless.

There are periods of the year when the meteors are more numerous. They appear and radiate from some small particular[[1]](#footnote-2) area in the sky. This area is called the Radiant. The meteor showers are periodic and usually appear at the same time every year, and each time with the radiant point. The showers mostly receive the name of the constellation from which they come and it is clear that they are in orbit around the Sun. It is when the orbit of the Earth crosses the orbit of the shower that we see the shooting stars.

One such shower path is crossed by the Earth in its orbit between November 14th to 18th and is known as the Leonids. There is good evidence that there is a very close con­nection between the meteor orbits and the orbits of comets. When comets grow old they break up and disintegrate into meteoric particles which gradually spread around the whole orbit.

**Vocabulary**

1. **so-called shooting stars** – так называемые падающие звезды
2. **Meteors reach great degrees of incandescent heat –** метеоры достигают степени белого каления
3. **The meteors meeting the Earth in its orbit** – метеоры, движущиеся навстречу Земле
4. **The meteors that come in from behind the Earth** – метеоры, которые движутся в одном направлении с Землей
5. **the Leonids** – Леонид (название метеорного дождя)
6. **they break up and disintegrate into meteoric particles** – они (кометы) распадаются и превращаются в метеоритные частицы
7. **to observe** – наблюдать
8. **particle of matter** – частица материи, вещества
9. **luminous –** ясный, светящийся, светлый
10. **friction** – трение
11. **to vapourize** – испаряться
12. **a short bright trail** – короткий яркий след
13. **the Radiant** – источник дождя метеоритов, радиант
14. **The meteor shower –** метеоритный дождь

1. [↑](#footnote-ref-2)