

Spaceguard and Near Earth Objects

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”Spaceguard” is an activity to discuss and to do something for the problem of the collisions with earth by small solar system bodies. It has become very active since 1990s because many Near Earth Objects (NEO) that come close to the earth were discovered due to the progress of the observation technology. Especially after 1998, the number of discovered NEO has increased greatly, and up to now about 10,000 NEOs has been discovered. Some of them approached the earth very closely, and some of them were said that they might collide with the earth. Moreover one of the asteroids was predicted to collide with the earth just one day before the collision. In the circumstances like this, the meteorite fell down in Russia and it caused rather large damage, which may be the most seriously one by a meteorite in the human history.

The most important thing in the spaceguard activity is to discover NEOs as much as possible, and to determine their orbits precisely. If the orbits of NEOs are determined precisely, their orbital evolution can be known by calculations as long as about 100 years. This means that we can know whether they will collide with the earth or not within 100 years, and if they do, then we can know the exact time and place of the collision. The second important thing is to study how to avoid the collision of NEO. The avoidance of collision strongly depends on the mass of the colliding body and the lead time before the collision. And now, the international frame work for the spaceguard activity is discussed in the committee of the United Nations.

In this presentation, the current status of NEO is reviewed first and then the spaceguard activity up to now is summarized. The strategy toward the spaceguard from now on will be discussed.

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