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Japan recognizes the importance of the exploration of asteroids. Even though the probability of near earth object (NEO) collision with the earth is low, it is important to understand fundamental characteristics of NEOs by exploring them to avoid collision with the earth.

In 2010, Japan brought back samples from the asteroid “Itokawa” through an asteroid explorer developed by JAXA called “Hayabusa”. This was the world’s first sample return mission from an asteroid.

The mission’s successor, Hayabusa 2, was launched in December 2014 and arrived at the C-type asteroid called “Ryugu” in June 2018. During Hayabusa2’s stay on Ryugu, it conducted various critical missions including the world’s first successful exploration of the surface of an asteroid using a lander and small rovers as well as two successful touchdowns on Ryugu. As a side note, the second touchdown was conducted around the artificial crater which was created by Hayabusa2 using an impact device. Last November, Hayabusa2 departed from Ryugu and is scheduled to return to the earth at the end of this year. Its retrieval is planned to be in Australia.

Itokawa and Ryugu, which were the target asteroids of two Hayabusas, are the objects that travel near earth. The detailed data on those NEO are useful to investigate ways and means to avoid the collision of NEOs onto the earth. With regard to NEO observation, JAXA developed a method to find fast-moving celestial body in Bisei Spaceguard Center, while continuing the observation using the existing method. JAXA spotted 10 fast-moving celestial body moving towards the earth using a small-caliber telescope. JAXA will further develop this method.

JAXA is a member of the Space Mission Planning Advisory Group (SMPAG) and an observer of the International Asteroid Warning Network (IAWN). Japan would like to continue its contribution to their activities using its observation facilities.

Japan will continue to conduct research missions to deepen our understanding of the basic features of NEOs in order to better understand the probability of a NEO collision with the earth. To end, I would like to reiterate the importance of international cooperation on NEOs, and Japan’s commitment to continue contributing to this important issue.

Thank you for your attention.