

The Research Analyzes Structure of Ray with Crater

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1. Research Object

Ray is saw on the moon. It is a radial pattern of lines. We knew how to repeat example to make meteorite familial based the meteorite theory, and we thought repeat example is make ray too. This research, we used these way, and we researched to make ray in a variety of situations in moon.

2. Research Method

In our experiments, we used starch and baby powder as moon surface and falling meteorite. We chose these powders in consideration of scale effect.

We dropped in models of meteorite from the same height to calculate physical energy. Meteorite models were made by powder with two measuring spoons.

We try three patterns of experiments.

1. when we drop starch balls on the floor

1, Starch balls which were supposed to be falling meteorite models were made with two measuring spoons.

2, This balls are dropped on the floor from height of 25cm, 50cm, 75cm, 100cm. We did this experiences five time a height.

3, Spreads of starch were recorded.

2. when we drop starch balls on the starch floor

1, Blue-colored starch and red-colored starch were made by using food coloring.

2, Red starch balls which were supposed to be falling meteorite models were made with two hemisphere spoons.

3, Blue-colored starch, which was supposed to be moon surface, was laid over a white sheet. The range of spread starch is four times as the radius of the balls.

4, The balls were dropped on the starch floor and recorded spreads of starch as photos.

3. when iron balls are dropped on the powdered floor

1, A plate with a hole was put on baby powder which had been filled a box as the same thickness. Which was supposed to be moon surface.

2, Iron balls which were supposed to be falling meteorite models were dropped into the hole.

3, Spreads of baby powder which scattered from the hole were recorded.

3. Experimental Result

In the experiment, we 1 found a positive correlation from the graph between physical energy of the meteorite model and diameter of the ray.

In the experiment 2, we succeeded to reproduce similar pattern of ray. We intelligence our result and consideration in the poster session.

4. Examination

We thought that the ejectors of ray are considered with falling meteorite and moon surface, but most of powder consisted ray models were ground one. Therefore, we conclude surface powder have high influence.

5. Future issue

The experiments in this study were conducted in an environment different from the lunar surface due to air resistance and the gravity of the earth.

In experiments 1 and 2, it wasn't possible to mechanize the manual operation for dropping the powder. As a result, the conditions become uneven.

Conduct an experiment to drop the powder diagonally considering the falling angle of meteorites.

The result of experiment II is visual judgment, and examines the correct information processing method such as quantification.

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