Analysis of the flow of water in the surface of Mars using a gravity variable apparatus

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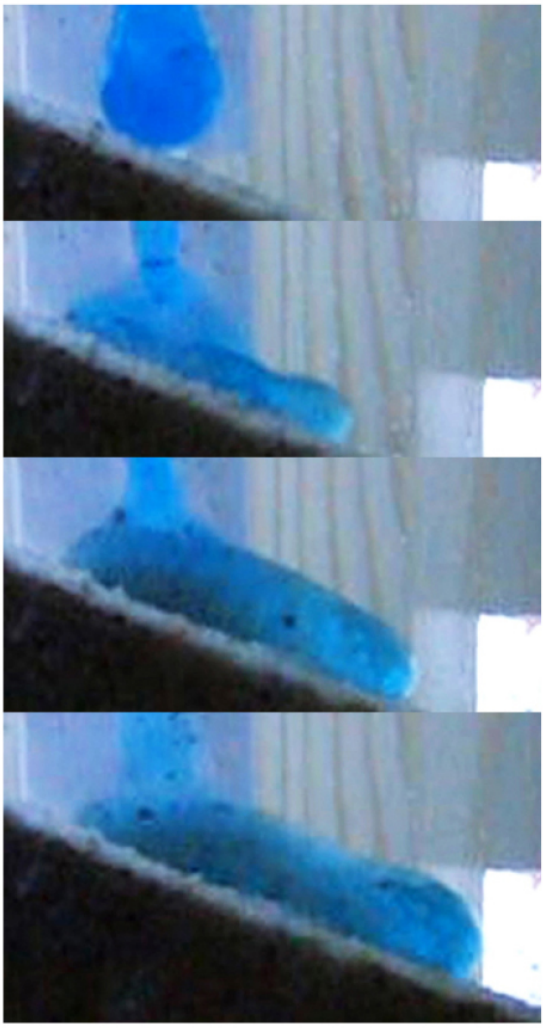
The Atwood pulley can control the acceleration of the weight by adjusting the weight of the two weights. Using this weight as an experimental capsule, we created a "gravity variable apparatus" that realizes the gravity of the moon and Mars on the ground. Within the descending capsule, we could create gravity of 1 G or less. We succeeded in making Martian gravity and moon gravity for 0.5 seconds. We also believe that we can create gravity of 1 G or more within capsules that will climb. Using the gravity of Mars, we observed how water flowed on the surface of Mars. On Mars the viscosity of water was increased 2.4 times compared to the Earth. In the past of Mars, it may have influenced water erosion and weathering. In the future, we plan to adjust the pressure and temperature inside the experiment capsule.

Keywords: Gravity variable apparatus, Microgravity generator, Gravity of Mars, Mars water, viscosity

地球の斜面を流れる水

火星の斜面を流れる水



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