Differences in infiltration process on the planets under different gravity.

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These days, we are trying to conduct the long-term stay in the space station, the various experiments under microgravity by the parabolic flight, and the research to explore the possibility of our stay on the other planets. In addition, we are exploring the existence of water and traces of living things on the other planets and satellites. If such an approach has become realistic, the next approach would be the earth, soil or regolith, where we need to consider how liquid flows and behaves. Here we consider the penetration phenomenon of solution when gravity is different. In the parabolic flight, they report that water in a vessel is sucked into noodles when it becomes zero gravity. When the influence of gravity becomes small, the influence of the capillary force by the porous body becomes relatively large, and the downward movement by the inertial force is restricted. Indeed, preliminary experiments showed that the downward reach of the solution increased as pseudo gravity increased. When we are trying to use regolith as planting on a planet with small gravity, the solution such as water might not move downward as we are estimating.

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