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ASTRAX, Inc., Japan

## SPACE RADIATION SHIELDING BY WATER DOME IN ASTRAX LUNAR CITY ON THE MOON

**Abstract**

When considering a lunar base or a lunar city, a place where it is necessary for people to live on the Moon, it is well known that there are various environmental problems such as the harsh living environment due to the absence of air, harsh temperature, pressure due to the vacuum, space radiation, and the gravity which is different from that of the Earth. Among them, the most commonly considered method of space radiation protection is to bury a base or a city underground on the Moon. However, from the perspective of the average user, this would limit visibility and reduce design flexibility, and would likely lose its appeal. Therefore, ASTRAX is considering the customer needs of ordinary people who want to go to the moon (lunar travelers and people who want to move to a lunar city), and at the same time, we want to use this opportunity as a way to solve the problem of space radiation. We are considering placing the base and city on the ground and wrapping the entire base and city with a water dome. In this paper, we will discuss the shielding properties and effectiveness of water against space radiation, identify issues and problems in the construction of water domes, and summarize useful information for application in future demonstrations.