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LEGAL ISSUES ON SCIENTIFIC INVESTIGATIONS IN LUNAR STATION ACTIVITIES:  
IMPLICATIONS FROM THE HIGH SEAS AND ANTARCTIC

**Abstract**

Constructing lunar stations is the next phase of lunar exploration, and lunar scientific investigations are the common objectives of lunar station projects in the pipeline. Such scientific investigations involve sample collection, in-situ lunar resource utilization, and other research activities. There are finite lunar resources that can be utilized for research, such as ideal lunar surface areas for lunar stations siting, lunar water, He-3, lunar metals and minerals. Regarding international law, states parties have the right to conduct scientific investigations in lunar station activities according to Article I, paragraph 3 of the Outer Space Treaty. However, the current outer space legal framework underpinned by principled rules of the Outer Space Treaty needs more specific rules on lunar scientific investigations. Thus, legal research on more operable rules is necessary to encourage future lunar scientific investigations and facilitate international cooperation on lunar research station activities.

This paper first introduces scientific investigations in lunar station activities and their role in advancing lunar exploration and benefiting all mankind. Then, this paper examines relevant articles of the Outer Space Treaty and Moon Agreement, and studies possible issues in their application in lunar scientific investigations. Though the Moon Agreement is not joined by major states conducting lunar activities, it provides feasible rules for lunar scientific investigations. Besides, international law related to scientific investigations in outer space and those in the high seas and Antarctic will be compared for references. Since the three areas are all global commons and share similar characteristics, a comparative study of their legal systems is feasible. Finally, legal proposals on further operable rules to encourage scientific investigations in lunar station activities are provided in four aspects: 1) international cooperation in lunar scientific investigations, including measures of mutual assistance and benefit sharing; 2) coordination between different lunar research projects, including possible information sharing and personnel exchanging; 3) protection and preservation of the lunar environment, including the establishment of international scientific preserves on the Moon; 4) scientific use of lunar resources, highlighting rights regarding those resources.