Association of Lunar & Planetary Observers

Lunar Topographical Studies Section

Suggested Areas of Study

Members of the Lunar Topographical Studies Section observe, study, and record the many surface features of the Earth's Moon. Some observers make their observations based upon the lunar features which are well placed at the time, others prefer to work on observing projects having a more formal structure. In order to enhance the observing experience of all lunar enthusiasts, we have listed here several areas of study which can be undertaken.

All observers should be aware that several formal programs related to topographic features are currently active within the A.L.P.O., they are:

LUNAR TRANSIENT PHENOMENA - The study of short-lived events on the Moon such as lights, glows, mists, and obscurations.

SELECTED AREAS PROGRAM - The study of albedo changes in selected features.

BRIGHT AND BANDED CRATERS - The study of craters identified by their bright appearance and/or having bands of light and dark on their interior walls.

DARK HALOED CRATERS - The study of craters surrounded by dark ejecta.

LUNAR DOME SURVEY - Observations of low profile swellings on the lunar surface to catalog their positions and properties.

BRIGHT LUNAR RAYS PROJECT - The study of the bright splash patterns formed by impacts on the Moon.

GENERAL TOPOGRAPHICAL STUDIES - Any observations of the lunar surface which do not fit into any of the above categories.

Submitting an observation to one of these programs does not preclude the submission of duplicate observations to other programs for inclusion in their studies.

Lunar observers seeking areas of topographical study for their own satisfaction might consider some of the following, keeping in mind that sufficient interest and submissions to the Section Coordinator could lead to the adoption of the program as a formal project.

VERTICAL STUDIES (1) - Using imaging equipment or micrometers to determine the heights of lunar mountains and the depths of craters is well within the capabilities of backyard astronomers especially when utilizing the software in Harry Jamieson's Lunar Observer's Toolkit.

VERTICAL STUDIES (2) - Those not suitably equipped to directly measure lunar heights and depths can utilize images produced by orbiting spacecraft, particularly for those features too small for typical amateur equipment.

INNER SLOPES - Using the shadow method to determine the inner slope angles of small (10-15 km) craters.

VOLCANIC CONES - High resolution electronic images now make it possible to detect and catalog lunar volcanic cones.

RILLES - Another area for potential discovery of uncataloged features for those capable of truly high resolution imaging.

FARSIDE STUDIES - All of the above studies (and more) can be conducted on the farside of the Moon using appropriate spacecraft images. There is no logical reason why the analysis of such data should be the strictly the province of the professional community.

PHOTOMETRIC STUDIES - Those having photoelectric photometers or suitable CCD imaging equipment could perform valuable studies related to the brightness differences and/or changes of various lunar features

COLORIMETRIC STUDIES - Similar to photometric studies, work also can be done on the color differences of the lunar terrain.

These are only a few of the specialized areas open to observers of the lunar surface. Your observations in these or any aspect of lunar topography are always welcome.