

## **NOMENCLATURE OF PLANETARY SURFACE DETAILS: CURRENT STATE AND PROBLEMS.**

Kira B. Shingareva  
Moscow State University for Geodesy and Cartography  
[kirash1@yasenevo.ru](mailto:kirash1@yasenevo.ru)

Detail nomenclature of Solar System surface bodies is the continuum (combination) of names officially given for extraterrestrial territories or some objects on them. It includes a proper name and the term classifying this relief formation or any albedo region. The International Astronomical Union (IAU) is historically busy with this problem. The beginning of the nomenclature standardization was officially begun at 1921 by including in IAU structure a special committee. Today there are more than 50 terms for the designation of relief forms using in the system of planetary nomenclature and about 20 of them were not known on the Earth before. They demonstrate the specific character of extraterrestrial territories. Besides it is to mention that there are more than 7000 proper names on the planetary maps for designation of separate relief details. The whole guide of the names on planets and their satellites was published at first in USA in 1986. In 1994 its next edition was appeared after some corrections and additions. In period of 1977-86 there were published some lists of Luna names for the far side of the Moon and for some other celestial bodies in the USSR too. During last 20 years the Planetary Gazetteer was placed by USGS USA in Internet. It contains some corrections and a lot of new names and terms. The IAU rules had also some corrections relative planetary nomenclature. Today all the using terms is possible to divide in three groups, namely the terms which are identically to the earth terms, then the terms for relief forms which don't exist on the Earth (some of them are found on several other bodies, some are the only one in their existence), also the terms which designate no relief form but some specific phenomenon (albedo details) or terms which are connected with some tradition (Mare, Lacus etc. on the Moon). It also means for example the names landing sites and detail-satellites. The craters are dominated in the first group. It is the most often relief form in the Solar system. It exists everywhere except Io. There are also found pains, mountains, rimaes, rilles, canions, pateras, cavis, rupes, hills, domes etc. There are 16 relief forms on the planets and their satellites which are known and studied on the Earth. The second group includes 22 terms some of which are on several Solar System bodies and some are very unique. The next flights and new data will bring some correction in this system. The third group contains albedo details and also some terrae and regions which are not exactly relief forms but details of planetary landscapes. The investigation and systematization of the whole material are given some results, but also formulated some questions. Besides landslides which are adopted on some celestial bodies and not adopted on the others, there are some forms which widely used in scientific papers on extraterrestrial territories but not yet officially adopted (basins, arachnoids etc.). It is also difficult to explain why the category of landing sites and also some details on these sites include only Apollo

landings, but nothing concerning Russian Luna Program and Lunokhod roots. American cartographers made a proposal for Mars to give names only for craters and valleys divided on large and small ( less 60 km) ones. The other details will designated as satellites, perhaps with letters, but not clear according which rules. The limits for belonging to a named detail are not definite. The IAU has not a lot interest in cartography and geodesy, in geology and geomorphology. It seems to go after tradition naming asteroids and comets by IAU. But according to extraterrestrial territories it is the task of other specialists from the other Unions and Associations. It is necessary to mention the other important role of these names: the history and culture of mankind. It is very important to use the knowledge of philosophers, historians and other specialists for advice and corrections. Such common group can be organized in frame of ICA.