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Author: Dr. Sandra Haeuplik-Meusburger
TU Wien, Austria, haeuplik@hb2.tuwien.ac.at

Dr. Olga Bannova
University of Houston, United States, obannova@uh.edu

REFLECTIONS ON EARLY LUNAR BASE DESIGN

Abstract

This paper will trace the early ideas of lunar architecture prepared by the US and Russian program. Starting with an historical overview of achievements, it will highlight specific engineering, architectural and design elements, illustrated with images and drawings. Some of them will be described in more detail, showing the design and decision-making process from the first sketch to its implementation.

One example of the great engineering and management capabilities is the development and inclusion of the deployable lunar roving vehicle (LRV). Other between 1962 and 1974, and a US project Horizon – a study to set up a Lunar Military outpost conducted in 1959. In addition examples include project DLB Zvezda by Barmin's Design Bureau of General Engineering that was under development, the paper will include personal statements from astronauts and other people involved along the process.

Based on a historical overview of achievements on both sides, this paper will highlight specific engineering, architectural and unique elements that defined design strategies for creating space systems, spacecraft and habitats for decades to follow.