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INITIAL STEPS TOWARD A LUNAR ARCHIVE OF EMERGENCY INFORMATION

Abstract

Placing on the Moon a retrievable store of critical information for recovery after a global catastrophe on Earth is technically feasible but not now the subject of any serious planning. In this paper we examine ways to get started on a small robotic scale, with the intent both to build credibility for the concept and to implant an actual store of data that could be retrieved by future visitors, either robotic or human. The idea of a lunar backup for the vital elements of Earth's civilization has been examined in various studies including the Phoenix project of the International Space University at its 2007 session in Beijing. With burial about a meter below the surface, a data capsule will be protected from most ionizing radiation and impacts and will be in a cold and constant thermal environment. An interesting problem is how to assure that Earth's survivors can find and use cached emergency supplies and the systems needed to call back down the stored lunar data to enable the restart of robust agriculture and other vital functions. Previous space missions, both robotic and human, have demonstrated some necessary capacities; here we explore and advocate some next logical steps.