SPACE EXPLORATION SYMPOSIUM (A3)
Moon Exploration – Part 2 (2B)

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THE SAINTE-ROSE MOON-MARS ANALOGUE VOLCANIC SITE AT LA REUNION FOR PREPARING FUTURE GEOLOGICAL AND HUMAN EXPLORATION

Abstract

After many years since the Apollo missions, the international space community, is considering a manned return to the Moon, and beyond, the human exploration of Mars. In preparation for these new developments, it will be useful to have analog sites presenting some similarities with lunar and martian conditions, for the purose of testing equipments and procedures in terms of technology and from the organisational point of view.

There exists a site that would be appropriate for such purpose in Reunion Island, a French region of the European Union, with the so-called "Plain of Sands", a mineral landscape zone in the volcano area of La Fournaise in the city of Sainte-Rose. Already in 2002, a TV documentary film was made on this site, with the participation of many scientific experts, to present what the future human exploration of Olympus Mons by Martian astronauts might be like.

Reunion Island offers an excellent environment in terms of logistics and professional support, with infrastructures featuring full European standards, and daily direct flights to Paris, France, without noticeable time lag with continental Europe, and, especially for the Europeans, a minimum of administrative and security burdens. The University of La Reunion and the technology institutes on the island feature future-oriented quality laboratories, including a leading research unit for Wireless Power Transportation, a technology for future Space Based Solar Power.

The city of Sainte-Rose has great ambitions, with the largest photovoltaic farm in France and OTEC projects. Sainte-Rose already has experience with space activities as a sponsor of the Sputnik-40-Years high-school satellite, and as a host of the IAF Education Committee in 1997. In 2006 NASA installed in Sainte-Rose a tracking station for the launch of the New Horizons Pluto probe. Also in 2006 a symbolic lychee fruit departed from Sainte-Rose and was launched on board of Bigelows' Genesis-2 spacecraft. Today, the city of Sainte-Rose can readilly offer available buildings for the implantation of a permanent administrative and technical support base in view of experimenting mobile laboratory and habitat concepts for the exploration of the Moon and Mars in the analog site of Plaine-des-Sables.

In conclusion, the implementation of a lunar/martian analog research site in Réunion Island is a highly feasible project that would bring many positive returns in terms of technology know-how, knowledge and science, prestige and economy, for the city of Sainte-Rose, for Reunion Island, and for the Lunar / Mars research communities.