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Introduction to the session on 'Human Space Exploration'

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Abstract. When Schiaparelli tried to interpret the surface of Mars as it appeared from his telescope, in particular with reference to the famous "channels", he formulated the hypothesis that they would have been the product of some intelligent Mars population. Today we know that this interpretation was not correct, but we would like to consider his idea as a sort of vision for a future when the humankind will export our civilization on Mars. In fact the objective of the international plans of "Space Exploration" is exactly to land the humans on Mars to start its colonization. Although a new approach is proposed which includes International Space Station, Moon, Asteroids, etc. in a sort of " flexible path" to look for"new worlds in the Solar System where is possible for the humankind to live and operate", it is confirmed that the "final destination" is Mars.

1. Introduction

Figure 1 is the cover sheet of the "Commission Augustine" report after the review of NASA Human Space Exploration strategy required by the USA Administration.

Space Nations and Agencies worldwide are meeting periodically in a Working Group dedicated to Space Exploration where the respective plans are compared in the attempt to optimize the resources and pursue an international cooperation. On the same line the Industries, Academies and Research Centers are working on project and technology development to be ready for these future challenges.

In this scenario the third day of this Symposium held in Torino was an opportunity to discuss the status of these initiatives with particular emphasis on Europe, Italy and Piedmont context and activities. In fact the first afternoon session, chaired by Piero Messidoro (TAS-I) introduced to the International, European and Italian Space Exploration strategies through the following presentations:
– "ESA Strategy for Human Exploration" by Bruno Gardini (ESA)
– "ASI Technologies for Human Space Exploration Strategy" by Francesco Svelto (ASI)
– "Human Space Exploration Architecture Study in TAS-I" by Maria Antonietta Perino (TAS-I)

The second afternoon session, chaired by Piero Benvenuti (ASI) entered more in details in the local initiative oriented to the Space Exploration through the following presentations:
– From ISS to Human Space Exploration: TAS-I Contribution and Perspectives by Piero Messidoro (TAS-I)
– PLANLAB: a planetary environment surface

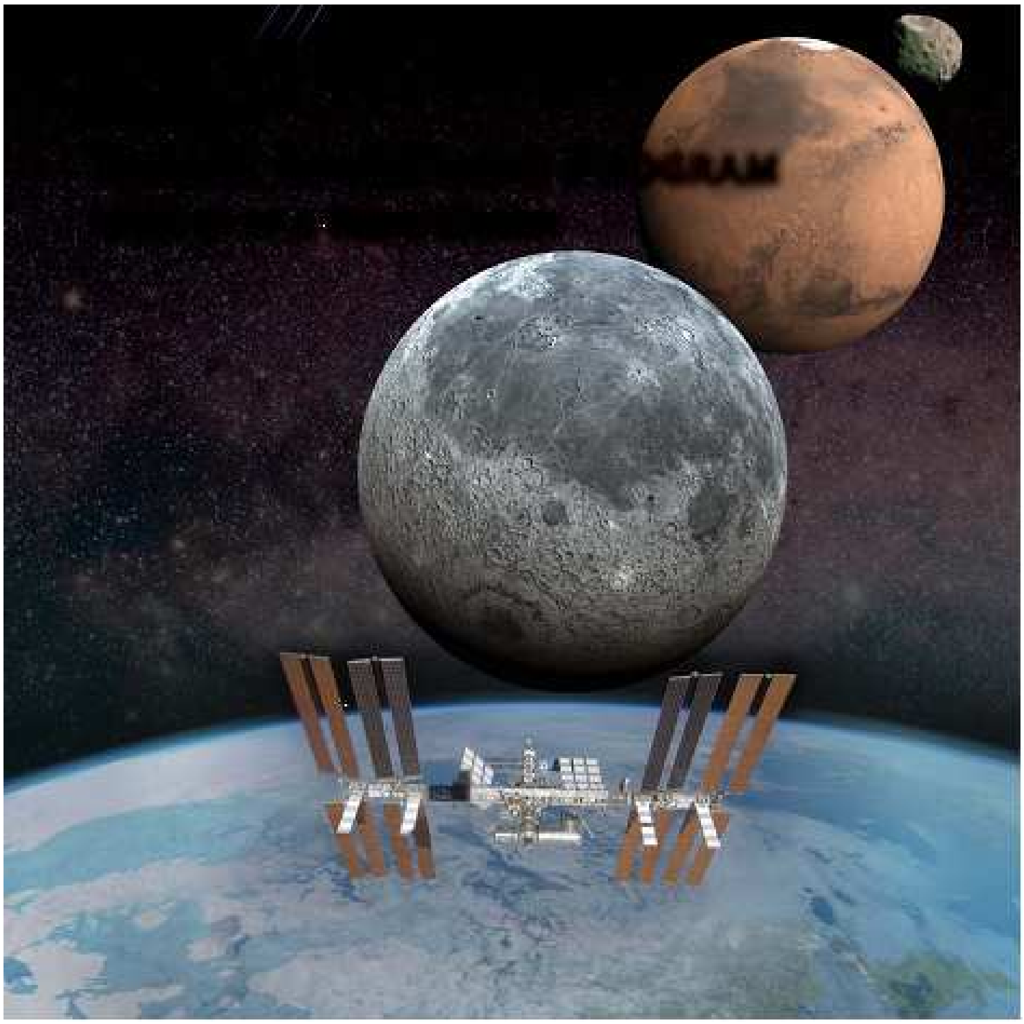

Fig. 1. Space Exploration from Augustine Commission in USA

and subsurface emulation facility by Roberto Trucco (ALTEC)

– Systems and Technologies for Space Exploration: the Regional co-funded project STEPS by Dario Boggiatto (Finpiemonte) (TAS-I)

– Five years of the International Master SEEDS: its contributions to Space Exploration by Gianfranco Chiocchia (Politecnico di Torino)

The concluding Round Table on "The perspectives of the exploration of the Solar System", where Maurizio Pandolfi (Accademia delle Scienze di Torino) moderated the discussion, involved the chairmen of the day sessions: Piero Benvenuti (ASI), Giovanni Pareschi (INAF-OA Brera), Vincenzo Giorgio (TAS-I), Piero Messidoro (TAS-I). The audience was also participating to the round table posing several questions to the speakers.