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Big projects in the planetary space science

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Space and planetary science needs a big project. This is because we need a big telescope to see far more small things, e.g., planets very distant from the Earth, and/or we need spacecraft to make a in situ observation to study the space plasma environment, and/or we need spacecraft orbiting the planet to look down the surface. The costs required for these big project are so large compared to the costs in other sciences (molecular biology and astronomy, for example), becomes an order of magnitude larger, and this fact leads to the people's suspicion that "are they really worth doing consuming the enormous cost?" For example, several hundred billion yen is needed to go to our neighboring celestial body, i.e., the Moon, and if you used this costs to save poor people, immeasurable number of people are saved. Thus scientists, who promote big project, should convince people with a reason, which should be really reasonable.

The persuasion starts with answering the question which people have had from old days, "Where are we from? Who are we? Where are we going?" and the big project should give the answer to this question. Another argument is that the big project should demonstrate the quality of the nation, which appeals how Japan can contribute to the knowledge of mankind. At last we have to clarify the top science target after serious discussion among scientists and make the big project a reasonable project to spend a huge amount of money.

Keywords: Space and Planetary Science, Big project