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Recent study of atmosphere change and proposed global water system on Venus and Mars

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Introduction: Air and sea water of the Earth-type planets are applied from detailed database of global Earth planet, because huge database of water planet Earth which has been accumulated precisely by our human activity on global Earth is considered to be applied easily and precisely [1].

Characteristics of atmosphere formation: Global atmospheric gas of planets should be continued to be erupted from the interior of the planets with the gravity effect. Venus and Mars with volcanoes along the equators followed the planetary rotations have been released volatile molecules of carbon dioxides previously or now [1].

Characteristics of global water system: The presence of sea-water of Earth planet has been applied for the evidence of past global sea water because of volatile elements in the interior deposits.
However, the phase diagram of the fluid (water and carbon dioxide) suggests that liquid can be stable by sandwiched with solid and air phase [2, 3]. Therefore, global seawater system can be formed basically only for global air system of any planets (Venus and Mars), it is difficult problem of local fluid ions or molecules enough for global water system.

Challenge for changes in atmospheric composition: Primordial planet's atmosphere shows composition with carbon dioxide gas, where it's significant challenge of changed atmospheric composition for future habitable planet. Cold carbon dioxides on Martian air for melting and solidification are generally possible realistically. However hot carbon dioxides (on Venus) are generally difficult to be changed locally and globally. It might be possible to apply present artificial method to change hot gas solidified [4] on the surface (not underground interior) for global system finally.

The possible formation of water system: Volatile systems of air and water separated from solid rocks produce planets of higher density as in Earth and Venus. Therefore there are two dynamic methods to form water system on Venus and Mars of 1) step-by-step method , and 2) rapid evaporation and cooling method. It would be effective proposed methods to form global water system (Venus and Mars) by natural celestial collisions and artificial methods of present science and technology finally [4].

Summary:
1) Formation of air and water systems for waterless Venus and Mars might be possible by experimental study based on new proposed research.
2) Air systems of Venus and Mars are considered to be internal volatile molecules emitted mainly by the planetary rotations.
3) Larger air-planets of Venus and Mars have environments for possible formation of water planets experimentally and naturally.
4) Global changes of cold air (Mars) and hot air (Venus) are possible based on effective scientific processes.
5) Global sea-water system for Venus and Mars by celestial activity and artificial methods is considered to be effective proposed methods.

References:
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[2] Miura Y. et. al. (1996) Antarctic Meteorites XX1(Tokyo), 107-110.
[3] Miura Y. (2015): LPSC2016 (LPI), #1811, 1666.
[4] Miura Y. (2009): Patent application.

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