Toward the exploration of habitable Mars: MMX and beyond

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Since Mars has attracted much interest as a potentially accessible habitable planet, the greatest number of spacecraft has been sent to this planet among any of the other extraterrestrial bodies. The Mars exploration has provided evidence for a variety of water-related geological activities: fluvial landforms, paleo-oceans and lakes, and aqueous alteration and weathering of the surface materials. These geologic observations indicated the existence of liquid water on the surface of Mars, while the most recent investigations have uncovered the possible existence of subsurface water (ice) world, which may be more favorable to extant or even present life on Mars. This paper summarizes the heritage of our knowledge on Mars and presents the importance of exploration of habitable Mars including JAXA’s Martian Moon Exploration (MMX).

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