

The surface environment and atmospheric chemistry on Titan

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Since the Cassini-Huygens mission's arrival at the Saturnian system in July 2004, one of its most important discoveries has been the finding of hydrological cycle (i.e., hydrocarbon lakes, sand dunes, fluvial features, and methane/ethane clouds) on Titan. In this paper, we review the observations on the surface environment of Titan by Cassini and Huygens spacecrafts and discuss the role of atmospheric chemistry, especially thick organic aerosols formed in Titan's upper atmosphere, on the stability and evolution of Titan's surface environment.