

MICROWAVE REMOTE SENSING OF MARTIAN SURFACE PARAMETERS AND GLOBAL DISTRIBUTION OF CRYOLITOZONE OF MARS; Yu.R.Ozorovich, V.Yu.Raizer, Institute Space Studies

The basic form of water on Mars is a solid phase on the surface (polar region) or frozen subsurface layers (permafrost in the form of heterogeneous texture).

Since the character of free water and its abundance in the martian outer crust are closely related with the scale and the structure of the cryolitozone the study of its is one of the important task of the future project "Mars-94". Microwave thermal image of Mars at S-L-Band (6-30 wavelength) for determining different (various) characteristics of the soil moisture (or part of frozen water), temperature profile of the surface layers, porosity of the ground salt ice, global and season studies of the state of the soil and ground is used.

Electrodynamical model of subsurface layers of Mars is founded on the dielectric theories of heterogeneous mixtures, which is modern in variant for some peculiarities of the vertical distribution dry and (or) fully saturated martian soil.

In S-L-Band was carry out the modeling studies for synthesis of pictures with modeling distribution of physical parameters in subsurface layer.

The primary theory of the remote sensing of the soil moisture parameters maybe realized on the Mars orbiter.

1. Yu.R.Ozorovich, V.Yu.Raizer Microwave remote sensing of martian surface parameters. Institute Space Studies, N 1531, 1989