

Overview of the preliminary results from the Phoenix Lander on Mars

El Maarry M. R(*)., and the Phoenix science team

* Max-Planck Institute for Solar System Research, Katlenburg-Lindau, Germany

Abstract

The main objectives for the Phoenix mission to Mars were first to provide ground truth for the 2002 Mars Odyssey discovery of massive ice deposits laid shallowly below a soil surface in the circumpolar regions, then to fully describe the ice and soil in terms of geology, mineralogy, chemistry, and physical properties. In addition, the lander carried on it a couple of atmospheric instruments to carry on meteorological investigations in order to increase our understanding of the Martian water cycle, and the degree of interaction between the atmosphere and the ground at different parts of the Martian year. A brief description of the instruments on board Phoenix is given first. Later, an overview of the preliminary results and observations is presented in a thematic manner (geological, mineralogical, chemical, and atmospheric) rather than an instrumental one in order to give a wider clearer picture of what has been learnt so far, as well as what is planned for the future.