



MiLi Project: towards Next Generation of Miniaturized Lidars for Mars Advanced Atmospheric Research

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The planet Mars has a complex climate, highly variable and only partly understood. The study of its atmosphere is of paramount importance for understanding the planet's climate evolution and its influence on potential past and present life, as well as for identifying potential risks its constituents may entail for future human crews and support equipment.

Atmospheric LIDARs could be used to also examine atmospheric dust and ice-based clouds on Mars. However, as LIDAR equipment are typically heavy and consume a lot of power they cannot be easily used aboard landers for planetary exploration. The EU-funded MiLi (Miniaturized Lidar for Mars Advanced Atmospheric Research) project plans to design a compact, low-power LIDAR that will provide the most precise characterisation of the suspended dust and clouds in the Martian atmosphere to date. To complete its objectives, the maturity level of 4 core technologies will be advanced.