

The Radiation Assessment Detector (RAD) on the Mars Science Laboratory (MSL)

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The Radiation Assessment Detector (RAD) is a compact, lightweight energetic particle analyzer to fly as part of the NASA 2009 Mars Science Laboratory (MSL) Mission. RAD will detect and analyze relevant energetic particle species (p, n, He, $2 < Z < 27$) incident on the Martian surface, including direct and indirect radiation created both in the atmosphere and the regolith. Fully characterizing and understanding the radiation environment is fundamental to quantitatively assessing the habitability of Mars, and an essential precursor measurement for future manned Mars missions. This talk will provide an overview of the RAD instrument and its scientific objectives for the MSL mission.