# ChemCam to study rocks from Mars

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The ChemCam instrument for NASA's Mars Science Laboratory mission uses a pulsed laser beam to vaporize a pinhead-size target, producing a flash of light from the ionized material -- plasma -- that can be analyzed to identify chemical elements in the target. Image Credit: NASA/JPL-Caltech/LANL

The NASA Mars Science Laboratory Project's rover, Curiosity, will carry a newly delivered laser instrument named ChemCam to reveal what elements are present in rocks and soils on Mars up to 7 meters (23 feet) away from the rover.

The laser zaps a pinhead-sized area on the target, vaporizing it. A spectral analyzer then examines the flash of light produced to identify what elements are present.
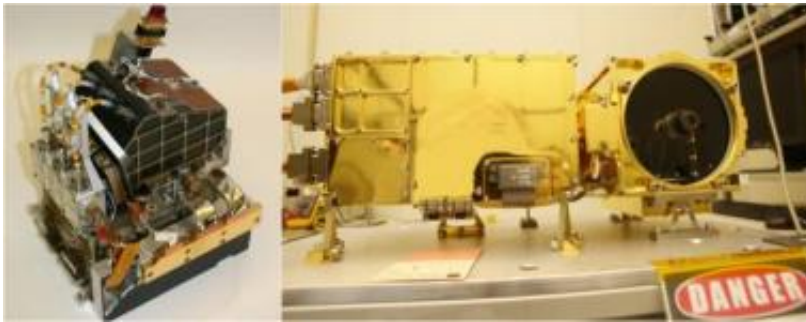
The two main parts of the ChemCam laser instrument for NASA's Mars Science Laboratory mission are shown in this combined image. Image Credit: NASA/JPL-Caltech/LANL

The completed and tested instrument has been shipped to JPL from Los Alamos for installation onto the Curiosity rover at JPL.

ChemCam was conceived, designed and built by a U.S.-French team led by Los Alamos National Laboratory, Los Alamos, N.M.; NASA's Jet Propulsion Laboratory, Pasadena, Calif.; the Centre National d'Études Spatiales (the French national space agency); and the Centre d'Étude Spatiale des Rayonnements at the Observatoire Midi-Pyrénées, Toulouse, France.
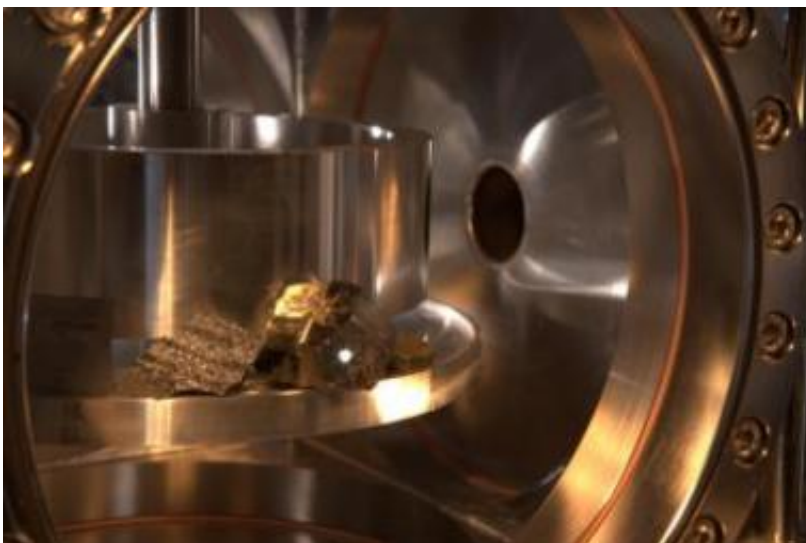
This image from testing of ChemCam shows a ball of luminous plasma erupting from the surface of an iron pyrite crystal in the sample chamber approximately 3 meters (10 feet) from the instrument. The laser beam itself is invisible. Image Credit: NASA/JPL-Caltech/LANL

Provided by JPL/NASA

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