Laser to be used to analyze Mars' soil

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Los Alamos National Laboratory scientists say they plan to use lasers on Martian soil to help speed the search for life and water on that planet.

In 2009, NASA plans to launch the Mars Science Laboratory, a rover lander equipped with a high-powered laser, capable of vaporizing the top millimeter of Martian surfaces, the Albuquerque Journal reported Thursday.

Called the "ChemCam," the instrument combines a laser and a telescope to determine the chemical makeup of Martian surfaces.

Roger Wiens, the principal Los Alamos scientist in charge of the instrument, told the Journal the laser's beam -- with a 30-foot range -- will excite and dislodge atoms from rocky and dusty surfaces. As the atoms return to their normal energy levels, they will emit a bright spark of light.

The telescope, he explained, will collect the light and divide it into the composite wavelengths -- some of which are beyond the visible spectrum -- to determine what elements make up various Martian rock and dust samples.

The technique is expected to substantially increase the speed at which scientists on Earth can analyze the Martian surface for signs of life and water.