

Project proposal

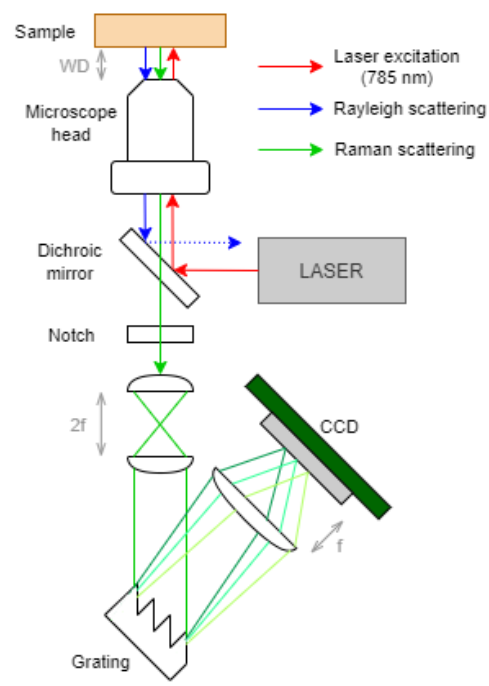
Title: Realization of an easily transportable spectrometer
 Supervisor: ...
 Timeframe: Spring 2022

EPFL Xplore is an interdisciplinary project whose aim is to design and develop rovers to participate in international competitions, namely The University Rover Challenge and the European Rover Challenge.

Project description

One of the rover's main tasks is to perform sample analyses on retrieved soil samples. The Raman Spectrometer gives back a Raman scattering spectrum, and with it the principal elements constituting the soil. This allows geologists to make precise assumptions on water presence on the Mars Yard, as well as hypotheses concerning the possibility of finding traces of life.

The purpose of this project is to test and continue designing a custom Raman spectrometer according to weight and cost budgets, that will be presented at this year's European competition. After designing (CAD) and thorough testing in optical labs, the spectrometer will be manufactured and integrated in the rover's Science Bay.



The student will be part of the Xplore Science Team to facilitate communication and information sharing regarding past and current designs.

Requirements

- Prior knowledge of Fusion360 and advanced CAD skills
- Strong basis in optics and some knowledge on spectrometry

Contact

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