



## Dark optical nano-spectroscopy in the visible and near-IR spectrum

*Open Discovery Ideas Channel*

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### Activity summary:

We implemented a nano-imaging and nano-spectroscopy setup that combines nanometric resolution imaging with the possibility of performing spectroscopy in the visible and near-IR region. The apparatus is based on broadband light sources suitably modulated to match the mechanical oscillations of an Atomic Force Microscope Cantilever.

We achieved the implementation of the proof-of-concept setup in the lab on an optical table. However, the optical components distribution, the light modulation techniques and the scanning probe imaging implemented are ready compatible with integration engineering for future Space missions.