

IN-SITU RESOURCE ANALYZER

ISRA / Laser spectroscopy payload for lunar exploration



Analyze to utilize

The In-Situ Resource Analyzer (**ISRA**) uses laser-induced breakdown spectroscopy (**LIBS**) technique for prospecting of lunar regolith.

Multi-elemental analyzer mounted on an **autonomous rover** enables an accelerated geological survey prior to mining and lunar settlement.

In-Situ Resource Utilization

- characterization of Lunar (Martian) regolith
- detection of water (H, and O)
- detection of other critical elements for ISRU
- chemical analysis necessary in various segments of ISRU (from prospecting to mining and utilization)

Laser-Induced Breakdown Spectroscopy (LIBS)

- stand-off elemental analysis
- laser ablation of material, plasma physics
- methodology for quantification and classification of minerals
- development of space-grade LIBS instrumentation

Laboratory of Laser Spectroscopy

Advanced Instrumentation and Methods
for Materials Characterization
Central European Institute of Technology
Brno University of Technology

Assoc. Prof. Pavel Pořízka, Ph.D.
email: pavel.porizka@gmail.com
web: <https://libs.ceitec.cz>



cooperation



EUROPEAN SPACE
RESOURCES INNOVATION
CENTER



LIGHTIGO
SPACE

LUXEMBOURG
INSTITUTE OF SCIENCE
AND TECHNOLOGY

