

SOLERO

A Mini-Rover for Regional Scientific Exploration

- SOLERO is an innovative mini-rover concept for regional mobility on a planetary surface
- The rover has a passive chassis concept with unique climbing capabilities. The system has a rhombus configuration: one wheel is mounted on a fork in the front, one wheel in the rear and two wheels each side are suspended on bogies.
- The geochemistry model-payload consists of:
 - APX-Spectrometer
 - Mössbauer Spectromete
 - Close-Up Imager
- The System is designed for autonomous operation, navigation and obstacle avoidance within a range of about 10 km.



- Mobility:
 - Overcome obstacles up to: 0.2 m
 - Locomotion speed: 20 cm/s
 - Travel distance per day: ~200m
- Electrical Power Consumption:
 - 6 W average, 30 W peak
- Electrical Power Generation:
 - photovoltaic generator with 16 W peak for a typical Martian day
- Mass including P/L: <10 kg
- Size: < 860 x 560 x 510 mm
- On-surface life time: > 100 days
- Withstand environmental conditions on Mars
- Status: FM conceptual design and breadboard model developed for ESA

Designed and built by



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