Software Solutions by Ateleris GmbH

Swiss SKA Days 2021, Lausanne EPFL, 07.09.2021
Services

- Development of software, algorithms, and data solutions
- Consulting and know-how transfer
- Hosting and operations
Technology

- Machine Learning and Data Science
- Specialty Software (e.g., embedded flight software)
- APIs and Data Platforms
- Optimization solutions
RELEVANT WORK
STIX Flight Software Development

Flight software development and maintenance for solar instrument STIX.

Software verification and testing with EGSE.

Optimization of onboard data processing.

Support to operations in flight.
STIX Data Processing and Archiving

Development of ground-based data processing pipeline in Python.

Transformation of telemetry data to housekeeping, quicklook, and science data.

Support to operations in flight.
Embedded Flight Software Verification (ESOVER)

aR&D collaboration with LARA group at EPFL in the frame of a Measure de Positionnement.

Application of formal verification methods to embedded software.

PoC with STIX file system.
Autonomy in Space with Machine Learning

aR&D feasibility study to evaluate onboard autonomous data processing with ML and optimization.

Implementation of an Interval Selection Algorithm to identify good data intervals.

Improvement of image quality and reduction of telemetry requirements.
SKA WORK AREAS
SKA Science Data Handling and Processing

- Development of efficient and optimized data processing pipelines.
- Development of machine learning, data science, and data engineering solutions.
- Development of data processing and data exploitation solutions.
- Low-level and embedded data processing.
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