

## The OPS4: towards a legacy Big Data system - A detailed view

*Thursday, 15 June 2023 11:30 (15 minutes)*

The OPS4 has been designed by a joint INAF-ALTEC team, as a legacy Big Data facility coming from the experience of the TLS prototype and the Gaia data reduction.

This is accomplished by taking into account the scalability and performance requirements necessary for the analysis and exploitation of Big Data dedicated to the investigation of the nearby Universe in the context of multimessenger astronomy.

The presentation concentrates on the definition of a coherent DM suitable to the expected use cases, and illustrates the reasons for choosing hybrid data management, with its metadata structured under Oracle DBMS (storage intensive), with the potential to exploit technologies such as in-memory and relational duality, while unstructured data (cold data) are residing on filesystem, being required for large-scale/deep data analysis.

The system implements a highly reliable and resilient file system, which allows to manage and organize data efficiently, while ensuring data security and integrity.

**Primary authors:** LICATA, Enrico (Istituto Nazionale di Astrofisica (INAF)); BUSONERO, Deborah (Istituto Nazionale di Astrofisica (INAF)); LATTANZI, Mario G. (INAF-OATo); MORBIDELLI, Roberto (Istituto Nazionale di Astrofisica (INAF))

**Co-authors:** Mr MESSINEO, Rosario (ALTEC S.P.A.); Mr TOLOMEI, Leonardo (ALTEC S.P.A.); Mr BRAMANTE, Lorenzo (ALTEC S.P.A.)

**Presenter:** LICATA, Enrico (Istituto Nazionale di Astrofisica (INAF))

**Session Classification:** Population Synthesis and Infrared-Ultraviolet

**Track Classification:** Astrophysics from Infrared to Ultraviolet