

CURRICULUM VITAE

Gianalfredo NICOLINI

Home : [REDACTED]
 email: [REDACTED]
 pec: [REDACTED]
 Phone: [REDACTED]
 Gender: Male
 Date of birth: [REDACTED]
 Nationality: [REDACTED]

Male, married, with two children.

PROFESSIONAL BACKGROUND

2012 - current

Primo Tecnologo
National Institute of Astrophysics (INAF)
Astrophysical Observatory of Torino (Italy)

Participation in the following projects:

(since December 2022)>> **ESA Plato Mission**

As **Camera Manager**, in charge of the following responsibilities:

- Camera Team coordination, composed by INAF and ESA/ESTEC personnel
 - Camera Project Office coordination
- Within the ASI/INAF agreement "PLATO Fasi B/C":
- WP5000 "Camera Coordination" work package manager

*The **ESA PLATO** mission has the goal to study terrestrial planets in orbits up to the habitable zone of Sun-like stars, and characterising these stars. In particular, Plato will discover and characterise planets in orbits up to the habitable zone.*

*The **CAMERA SYSTEM**, composed by 26 flight units and 5 spares, is the result of the integration of different subsystems: the Telescope Optical Units (TOU), The Focal Plane Arrays or FPA, the Front-End Electronics (FEE), the Ancillary Electronic Unit (AEU) and the thermal components (MLI and TCS).*

To the CAMERA SYSTEM, also one integration facility (CSL in Belgium) and 3 Test Houses (SRon in Netherlands, IAS in France and INTA in Spain) concur.

(since December 2022)>>

Project AIXTREME

As WP manager for the OATo activities within the research consortium lead by UniGe-DIMA.

*The project "Physics-based AI for predicting extreme weather and space weather events" (**AIXTREME**) has won the selection for a public grant given by the "Compagnia di San Paolo" in the area of interest "Environment and the green transition".*

It has the objective to build a pipeline of artificial intelligence (AI) techniques able to calibrate both numerical models based on the physics of space weather and numerical models based on the physics of the atmosphere, with the aim of protecting satellite infrastructures and of anticipating the occurrence of extreme weather events.

(since December 2007)>>

Metis instrument for the ESA Solar Orbiter mission

As **Co-Investigator**, member of the Project Office with the duties of Project Control, Product Assurance and **Instrument Scientist**.

- Participation in the Metis project since the instrument proposal in 2008, during the design phase, the development phase, the integration, testing and characterization of the instrument, to the in-flight commissioning, and the preliminary and the present nominal in-flight operations.
- Preparation of the financial proposal and balance sheet for the ASI-INAF funding

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- agreement for Solar Orbiter
 - Metis representative at the ESA Solar Orbiter EMC Working Group, participation in the Science Operation Working Group e Remote Sensing Working Group.
 - As author, book captain or contributor, participation in the definition of several project documents, among them the Metis User Manual, the Instrument Specifications and the Metis EID-B.
 - Participation in the ESA reviews
 - Support to ASI for the industrial contracts reviews with the industrial partners.
 - Specification and procurement of the Metis ground segment inclusive of the instrument Reference Model and the scientific telemetry processing pipelines.

***METIS** is the first **coronagraph** allowing simultaneous imaging in both visible (590 - 650 nm) and ultraviolet (121.6 +- 10 nm) light. It is successfully flying since February 2020 on-board the **ESA** mission **Solar Orbiter**. Metis was designed and developed and is operated under Italian leadership. Metis goal is to detect the solar wind in its early development in the solar corona. It is equipped with two CMOS detectors: a CMOSes (VL) and a IAPS 1024x1024 STAR1000 Cypress.
The visible light channel is equipped with a Liquid Cristal polarimetric module.
The instrument has a annular FOV between 1.5° e 2.9° and a spatial resolution of 20 arcsec.*

(since December 2007)>>

ESA PROBA-3 mission

- Participation in the proposal, design and manufacturing of the Shadow Positioning Sensor subsystem.
- Participation in the definition and the execution of the ASPIICS PFM characterization and calibration campaign at OPSys.

Institutional and managerial duties

- **OPSys Facility Manager**
The Optical Payload System facility, has been designed and developed for performing integration, verification and validation activities on visible and UV optical payloads for space and ground applications. OPSys is owned by INAF and hosted by Aerospace Logistics Technology Engineering Company (ALTEC SpA) in Turin, Italy.
It has been used for the calibration and characterization of Metis, ASPIICS-PROBA3 and other instruments. It will be used for the NASA-CODEX coronagraph.
- Scientific Referent for the OATo ICT department
- December 2022, member of the Review Board for the Product Review of the SST-CTAO Project.
The review board is composed by 12 international experts.
- In Fall 2018, member of the selection board for the nation-wide recruitment for 29 positions of Tecnologo (III level), distributed in 6 different research fields within the ST-3 area. About 130 applications have been received and reviewed, and all candidates interviewed. The six ranking tables were used to appoint a grand total of about 40 young scientists.
- In June 2021, chair of the selection board for one position of technician (CTER VI liv.) for the Mechanical workshop and the optical laboratory at OATo
- Chair of 2 selection boards for fellowship positions at OATo
- Member of 6 selection board for fellowship positions at OATo
- Tutoring of fellows and students

2007 – 2012

Freelance consultant in the scientific-technological and IT fields.

In this period, a collaboration with INAF-OATo was established to prepare the proposal for a spectro-coronagraphic instrument for the ESA Solar Orbiter mission and for the Shadow Positioning System (SPS) of PROBA-3.
Both proposal have been accepted. The instrument proposed for Solar Orbiter has become the Metis scientific investigation.

2000 – 2007

**Employed (VII Livello contratto metalmeccanico)
Alenia SpA in Torino**

(renamed over the period in Alenia Spazio, Alcatel and Thales Alenia Space)

- (2004-2006)>> **Head of the “Metrology and Optical Instrumentation”** team of Thales Alenia Space Italia, composed by six permanent staff persons and other (typically 2-3) with fix term contract or fellowship.
Responsible for the definition and development of the internal research programs for metrological systems to be used in Satellite Formation Flying (Test missions: PROBA-3, Simbol-X).
- (2004-2006)>> Industrial **System Engineer of PRIMA-FSU**, the Fringe Sensor Unit of PRIMA, subsystem of the European Southern Observatory (ESO) VLT.

*The **FSU** consists of an infrared camera measuring the position of the white light fringe of the primary star (and a second unit for the secondary star in astrometric mode), thus providing the error signal for the fringe tracking system (and the OPD difference between primary and secondary star). The fringe sensor unit is able to provide the error signal on a K = 10 star (on the UTs) with a measurement noise of 70 nm rms at a 500 Hz rate.
The FSU has been delivered to the ESO in 2006 and, after the calibration in the lab, has seen the first light at Paranal in August 2008. Since then, it has been used for the commissioning and the operations of PRIMA until decommissioning.
(for info <https://www.eso.org/sci/facilities/paranal/decommissioned/prima.html>)*

- (2000-2004)>> Member of the **ESA Rosetta** AITV team with the role of Payload Engineer responsible for the electrical and functional integration and verification of the scientific payloads and the Lander Philae, in Torino, ESTEC and Kourou.
Participated at the test and qualification campaigns of the EQM and FM satellites.
Eventually, he followed the preparation to the launch at the Kourou base performing the functional tests and preparing the launch sequence of the integrated S/C.

*The **ESA Rosetta** mission had the goal to chase, go into orbit around, and land on the 67P/Churyumov-Gerasimenko comet. The S/C has been integrated on the Ariane 5 launcher in Autumn 2002 for the nominal launch date in January 2003. The launch has been postponed to one year as consequence of the Ariane 5 Flight 157 failure in December 2002.
Successfully launched in March 2004, the probe has since then performed nominally its mission: a long journey completed with a perfect rendezvous with the comet in August 2014. Then the S/C has escorted the comet until September 2016.
Presently the S/C rests in peace on the comet surface.
(for info <http://www.esa.int/rosetta>)*

- (2005)>> Participated in the revision and refurbishment of a **LIDAR UV** of the University of Geneva (CH), in cooperation with the University of Pavia (IT).

1993 - 1999

Infrared Detector Specialist (permanent staff - Career Path VI) at the **European Southern Observatory (ESO)** in Garching b. München (Germany).

Up to 1998 **Riccardo Giacconi** (Nobel Price for Physics 2002) is the Director General.

- Main duty is the test, characterization and performance optimization of the several infrared detector subsystems candidate to be installed in the ESO focal plane optical instruments.
 - In charge of the design, development and integration of the detector proximity board (including of noise filters, cryo pre amps etc.), the connections inside the cryostat (low thermal conductivity signal lines, grounding scheme optimization etc), to properly interface the general purpose acquisition system (IRACE).
 - Member of the ISAAC, SOFI, NIRMOS e CRILES teams, he participates ~~to~~in the design, integration and commissioning at the telescopes of the instruments.
 - **Infrared Laboratory Work Package manager** (Yearly budget about 100'000 DEM).
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ISAAC was an infrared imaging and spectroscopic camera installed at the UT3 Nasmyth A focus of the **ESO VLT**. It has two channels that can operate simultaneously: one in the near infrared (1 - 2.5 μm) equipped with a 1024x1024 Rockwell/Teledyne Hawaii HgCdTe detector and the other in the mid-infrared (3- 5 μm) equipped with a 1024x1024 Santa Barbara Research Center/Raytheon Aladdin InSb detector.

The instrument offers the following observing modes:

- **imaging (NIR)** with a FOV of 152x152 arcsec² (0.148 arcsec/pix) – FOV=152 x 152 arcsec² with several bandpass filter to be selected.
- **imaging (MIR)** with FOV selectable between 73x73 arcsec² (0.071 arcsec/pxl) and 152x152 arcsec² (0.148 arcsec/pxl) with several bandpass filters to be selected.
- **spectroscopy** in mean ($\lambda/\Delta\lambda = 2000$ NIR, $\lambda/\Delta\lambda = 3000$ MIR), e low ($\lambda/\Delta\lambda = 500$ both channels) resolution.
- **imaging polarimetry** only for the NIR channel with several bandpass filter to be selected.

ISAAC was operative since 1999 until March 2013 and has been used for observations that have produced more than 1000 articles referenced in total for over 35000 times, one of them¹ being referenced more than 1000 times, 3 more than 500 times and 74 more than 100 times.

SOFI is the **ESO NTT** imaging and spectroscopic infrared camera.

The instrument is equipped with a Rockwell/Teledyne Hawaii HgCdTe 1024x1024, 18.5 μm pixel size, infrared detector. It is sensible in the 0.9-2.5 μm wavelength window. The instrument offers the following observing modes:

- **imaging** with 0.144, 0.273 and 0.288 arc-seconds/pixel scale plate, with different bandpass filters in the 0.9 - 2.5 μm wavelength region.
- **spectroscopy** 0.93-2.54 μm at mid ($R=1200-1500$), e low ($R=600$) spectral resolution with fix slits, 0.6, 1 and 2 arc seconds wide.
- 0.9-2.5 μm **imaging polarimetry**.
- **imaging at high temporal resolution** with integration times as low as few tenth of milliseconds via hardware windowing of the detector readout.

SOFI is operative since 1997 and it has been used for observation campaigns that produced about 1850 articles referenced in total more than 30000 times, one of these² has been cited more than 2100 times.

1988 - 1993

Astronomical Observatory of Torino Electronic Lab technician

(Strada Osservatorio, 20 - Pino Torinese – TO, Italy)

Participated in the design and development of the infrared cameras **TIRCAM** (imaging in the 8-20 μm wavelength region) and **TCMIRC** (two channel imager in the 2.5-14 μm band) in the electronics and software fields.

In this context participation in the commissioning and several observational campaigns of the two cameras at the Italian IR Telescope TIRGO in Switzerland.

Participated, within the CCD Working Group of the Italian National Telescope GALILEO, in the design and development of the CCD camera acquisition system.

1986 – 1987

San Paolo Bank of Torino Employed in the "Telecommunication Office".

I participated in the management, development and planning of the data network between the CED and the bank agencies.

¹ "The star formation history of the K-selected field galaxies since $z \sim 1$ " by C. M. Carollo et al., published in 2005 in *The Astrophysical Journal*

² "The Great Observatories Origins Deep Survey: initial results from optical and near-infrared imaging" by M. Dickinson et al., published in 2003 in *The Astrophysical Journal*

EDUCATION

1995 Laurea in Physics with 102/110 vote
University of Torino - Italy (1995)
Thesis: Characterization of bi-dimensional infrared detectors
Rel. Prof. G. Bonazzola

1985 Perito industriale in Telecomunicazioni with 50/60 vote
ITIS Pininfarina – Moncalieri (TO) – Italy

SKILLS and COMPETENCES

Professional

- Relevant experience in management of projects, infrastructures and personnel in the scientific field with specific specialisation in projects related to space and ground based astronomical instrumentation.
- Very good knowledge of the standard financial process (both for accounting and balance) adopted by ASI and ESA for space programs.
- Very good knowledge of the AIT/AIV process related to the scientific instrumentation for space.
- Deep knowledge of the bi-dimensional detectors technology (especially infrared CMOS/APS), their characterisation process and their applications and usage in the astronomical and civil fields
- Very good knowledge of the technologies related to experimental astronomy, with specific emphasis on optical (cryogenic) instrumentation.
- Good knowledge of several programming (python, C, C++, Elisa), high level (LabView, html, php) and data reduction/analysis (python, SQL, Matlab, MathCad) computer languages.

Languages

Mother tongue: Italian

Other Languages:

English

LISTENING C1 READING C2 WRITING C2

SPOKEN PRODUCTION C1 SPOKEN INTERACTION C1

German

LISTENING B2 READING B1 WRITING B1

SPOKEN PRODUCTION B1 SPOKEN INTERACTION B2

Basic knowledge of most European languages

Le informazioni contenute nel presente "curriculum vitae et studiorum" ed i suoi allegati sono rese sotto la personale responsabilità del sottoscritto, ai sensi degli articoli 46 e 47 del Decreto del Presidente della Repubblica 28 dicembre 2000, numero 445, e successive modifiche ed integrazioni, consapevole della responsabilità penale prevista dall'articolo 76 del medesimo Decreto per le ipotesi di falsità in atti e dichiarazioni mendaci.

In Fede,

Elenco delle pubblicazioni e dei lavori più rilevanti

- Telloni, D., Romoli M., Velli M., Zank G.P., Adhikari L., Downs C., Burtovoi A., Susino R., Spadaro D., Zhao L., Liberatore A., Shi C., De Leo Y., Abbo L., Frassati F., Jerse G., Landini F., Nicolini G., Pancrazzi M., Russano G., Sasso C., Andretta V., Da Deppo V., Fineschi S., Grimani C., Heinzel P., Moses J.D., Naletto G., Stangalini M., Teriaca L., Uslenghi M., Berlicki A., Bruno R., Capobianco G., Capuano G.E., Casini C., Casti M., Chioetto P., Corso Alain J.C., D'Amicis R., Fabi M., Frassetto F., Giarrusso M., Giordano S., Guglielmino S.L., Magli E., Massone G., Messerotti M., Nisticò G., G. Pelizzo M., Reale F., Romano F., Schühle U., Solanki S.K., Straus T., Ventura R., Volpicelli C.A., Zangrilli L., Zimbardo, G. Zuppella P., Bale S.D. and Kasper J.C., (2023) Coronal Heating Rate in the Slow Solar Wind, *ApJ*, 955(1), L25.
<https://iopscience.iop.org/article/10.3847/2041-8213/ace112>
- Telloni D., Lo Schiavo M., Magli E. , Fineschi S., Guastavino S., Nicolini G., Susino R., Giordano S., Amadori F., Candiani V., Massone A.M. and Piana M., (2023) Prediction Capability of Geomagnetic Events from Solar Wind Data Using Neural Networks, *apj* 952:111 (8pp), 2023 August 1
<https://iopscience.iop.org/article/10.3847/1538-4357/acdeea>
- Telloni, D., Zank, G., Stangalini, M., Downs, C., Liang, H., Nakanotani, M., Andretta, V., Antonucci, E., Sorriso-Valvo, L., Adhikari, L., Zhao, L., Marino, R., Susino, R., Grimani, C., Fabi, M., D'Amicis, R., Perrone, D., Bruno, R., Carbone, F., Mancuso, S., Romoli, M., Deppo, V., Fineschi, S., Heinzel, P., Moses, J., Naletto, G., Nicolini, G., Spadaro, D., Teriaca, L., Frassati, F., Jerse, G., Landini, F., Pancrazzi, M., Russano, G., Sasso, C., Biondo, R., Burtovoi, A., Capuano, G., Casini, C., Casti, M., Chioetto, P., De Leo, Y., Giarrusso, M., Liberatore, A., Berghmans, D., Auchere, F., Cuadrado, R., Chitta, L., Harra, L., Kraaikamp, E., Long, D., Mandal, S., Parenti, S., Pelouze, G., Peter, H., Rodriguez, L., Schuhle, U., Schwanitz, C., Smith, P., Verbeeck, C., & Zhukov, A. (2022). Observation of a Magnetic Switchback in the Solar Corona. *ApJ*, 936(2), L25.
<https://ui.adsabs.harvard.edu/abs/2022ApJ...936L..25T>
- Telloni, D., Zank, G., Sorriso-Valvo, L., D'Amicis, R., Panasenco, O., Susino, R., Bruno, R., Perrone, D., Adhikari, L., Liang, H., Nakanotani, M., Zhao, L., Hadid, L., Sánchez-Cano, B., Verscharen, D., Velli, M., Grimani, C., Marino, R., Carbone, F., Mancuso, S., Biondo, R., Pagano, P., Reale, F., Bale, S., Kasper, J., Case, A., de Wit, T., Goetz, K., Harvey, P., Korreck, K., Larson, D., Livi, R., MacDowall, R., Malaspina, D., Pulupa, M., Stevens, M., Whittlesey, P., Romoli, M., Andretta, V., Deppo, V., Fineschi, S., Heinzel, P., Moses, J., Naletto, G., Nicolini, G., Spadaro, D., Stangalini, M., Teriaca, L., Capobianco, G., Capuano, G., Casini, C., Casti, M., Chioetto, P., Corso, A., De Leo, Y., Fabi, M., Frassati, F., Frassetto, F., Giordano, S., Guglielmino, S., Jerse, G., Landini, F., Liberatore, A., Magli, E., Massone, G., Messerotti, M., Pancrazzi, M., Pelizzo, M., Romano, P., Sasso, C., Schühle, U., Slemmer, A., Straus, T., Uslenghi, M., Volpicelli, C., Zangrilli, L., Zuppella, P., Abbo, L., Auchere, F., Cuadrado, R., Berlicki, A., Ciaravella, A., Lamy, P., Lanzafame, A., Malvezzi, M., Nicolosi, P., Nisticò, G., Peter, H., Solanki, S., Strachan, L., Tsinganos, K., Ventura, R., Vial, J.C., Woch, J., & Zimbardo, G. (2022). Linking Small-scale Solar Wind Properties with Large-scale Coronal Source Regions through Joint Parker Solar Probe-Metis/Solar Orbiter Observations. *apj*, 935(2), 112.
<https://ui.adsabs.harvard.edu/abs/2022ApJ...935..112T>
- Liberatore, A., Capobianco, G., Fineschi, S., Massone, G., Zangrilli, L., Susino, R., & Nicolini, G. (2022). Sky Brightness Evaluation at Concordia Station, Dome C, Antarctica, for Ground-Based Observations of the Solar Corona. *solphys*, 297(3), 29.
<https://ui.adsabs.harvard.edu/abs/2022SoPh..297..29L>
- Andretta, V., Bemporad, A., De Leo, Y., Jerse, G., Landini, F., Mierla, M., Naletto, G., Romoli, M., Sasso, C., Slemmer, A., Spadaro, D., Susino, R., Talpeanu, D.C., Telloni, D., Teriaca, L., Uslenghi, M., Antonucci, E., Auchere, F., Berghmans, D., Berlicki, A., Capobianco, G., Capuano, G., Casini, C., Casti, M., Chioetto, P., Da Deppo, V., Fabi, M., Fineschi, S., Frassati, F., Frassetto, F., Giordano, S., Grimani, C., Heinzel, P., Liberatore, A., Magli, E., Massone, G., Messerotti, M., Moses, D., Nicolini, G., Pancrazzi, M., Pelizzo, M.G., Romano, P., Schuhle, U., Stangalini, M., Straus, T., Volpicelli, C., Zangrilli, L., Zuppella, P., Abbo, L., Aznar Cuadrado, R., Bruno, R., Ciaravella, A., D'Amicis, R., Lamy, P., Lanzafame, A., Malvezzi, A., Nicolosi, P., Nisticò, G., Peter, H., Plainaki, C., Poletto, L., Reale, F., Solanki, S., Strachan, L., Tondello, G., Tsinganos, K., Velli, M., Ventura, R., Vial, J.C., Woch, J., & Zimbardo, G. (2021). The first coronal mass ejection observed in both visible-light and UV H I Ly- η channels of the Metis coronagraph on board Solar Orbiter. *ApJ*, 914, L14.
<https://ui.adsabs.harvard.edu/abs/2021A&A...656A..32R>
- Romoli, M. ; Antonucci, E. ; Andretta, V. ; Capuano, G. E. ; Da Deppo, V. ; De Leo, Y. ; Downs, C. ; Fineschi, S. ; Heinzel, P. ; Landini, F. ; Liberatore, A. ; Naletto, G. ; Nicolini, G. ; Pancrazzi, M. ;

- Sasso, C. ; Spadaro, D. ; Susino, R. ; Telloni, D. ; Teriaca, L. ; Uslenghi, M. ; Wang, Y. -M. ; Bemporad, A. ; Capobianco, G. ; Casti, M. ; Fabi, M. ; Frassati, F. ; Frassetto, F. ; Giordano, S. ; Grimaldi, C. ; Jerse, G. ; Magli, E. ; Massone, G. ; Messerotti, M. ; Moses, D. ; Pelizzo, M. -G. ; Romano, P. ; Schühle, U. ; Slemmer, A. ; Stangalini, M. ; Straus, T. ; Volpicelli, C. A. ; Zangrilli, L. ; Zuppella, P. ; Abbo, L. ; Auchère, F. ; Aznar Cuadrado, R. ; Berlicki, A. ; Bruno, R. ; Ciaravella, A. ; D'Amicis, R. ; Lamy, P. ; Lanzafame, A. ; Malvezzi, A. M. ; Nicolosi, P. ; Nisticò, G. ; Peter, H. ; Plainaki, C. ; Poletto, L. ; Reale, F. ; Solanki, S. K. ; Strachan, L. ; Tondello, G. ; Tsinganos, K. ; Velli, M. ; Ventura, R. ; Vial, J. -C. ; Woch, J. ; Zimbardo, G., "First light observations of the solar wind in the outer corona with the Metis coronagraph", *Astronomy & Astrophysics*, Volume 656, id.A32, 9 pp, December 2021
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- Telloni, D., Antonucci, E., Bemporad, A., Bianchi, T., Bruno, R., Fineschi, S., Magli, E., Nicolini, G., & Susino, R. (2019). Detection of Coronal Mass Ejections at L1 and Forecast of Their Geoeffectiveness. *apj*, 885(2), 120.
<https://ui.adsabs.harvard.edu/abs/2021ApJ...920L..14T>
- Fabio Mulone, A., Casti, M., Susino, R., Messina, R., Antonucci, E., Chiesura, G., Telloni, D., De March, R., Magli, E., Bemporad, A., Nicolini, G., Fineschi, S., Solitro, F., & Martino, M. (2019). Distributed framework for Space Weather forecasts. In *EPSC-DPS Joint Meeting 2019* (pp. EPSC-DPS2019-1997).
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<https://ui.adsabs.harvard.edu/abs/2019SPIE11180E..7MC>
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<https://ui.adsabs.harvard.edu/abs/2019SPIE11180E..76D>
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Documentazione di progetto

METIS-OATO-ICD-001 Issue5 Metis Experiment Interface Control Document part B;
 METIS- OATO-PLN-002 Issue 4.2 Metis Management Plan;
 METIS OATO-PRO-002 Issue 1.10 Metis Performance Verification Procedure;
 METIS-OATO-RPT-009 Issue 1.1 Metis EM Detector Assemblies SFT Procedure and Report
 METIS-OATO-RPT-012 Issue 1.0 Metis EMC Test Report ;
 METIS-OATO-RPT-019 Issue 1.0 Analysis of the Metis PFM detector images acquired in TVAC;

METIS-OATO-RPT-020 Issue 1.0 VLD DarkCurrentReport;
METIS-OATO-RPT-031 Issue 1.0 Metis PFM SVT1a Assessment Report;
METIS-OATO-RPT-032 Issue 1.0 Metis PFM EMC Assessment Report;
METIS-OATO-RPT-036 Issue 1.0 Metis Commissioning IT-3 Report;
METIS-OATO-SPE-019 Issue 1.0 Specification of Metis planning Center;
METIS-OATO-TNO-012 Issue 1.0 Metis OnBoard Data Processing Description
METIS-OATO-ICD-001 Issue 5 Metis Experiment Interface Control Document part B:
METIS-OATO-PLN-002 Issue 4.2 Metis Management Plan;
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