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| **Name** | Demetrio Labate |
| **Personal Data** | |
| **Organization / Position** | Program Manager / Senior Advisor<br><br>CTO & Capability – LEONARDO Electronics Division (Italy) |

**Highlights**

Demetrio Labate received his Master Degree in Electronic Engineering at the University of Florence and he started his career at Officine Galileo (now Leonardo) in 1990 as optical designer after an intensive on site course on optics. Since 1995 he started working in the Space Dept. as Project Manager for several ESA and ASI studies of optical instruments for Earth Observation satellites. His interests focused for many years on the development of hyperspectral systems for both space and avionics applications. Recently he was involved in ESA studies relevant to definition and design of CubeSat payloads.
Currently he is Program Manager / Senior Advisor within the CTO department of Leonardo Electronics Business Unit with responsibility for studies and new developments. He is lecturer of the "Master in Satellite Systems and Services" at University of Sapienza in Rome and of the "Department of Aerospace Science and Technology" at Politecnico of Milan, where he gives lessons on Space optical instrumentation design and principles of satellite remote sensing.

**Professional Main Experiences**

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| **2021- today** | **CTO & Capability – LEONARDO Electronics Division (Italy)**<br>**Program Manager / Senior Advisor**<br>• Program Manager / Technical Coordinator for:<br>- SBG VNIR Payload (Phase A/B1 – ASI Study with JPL/NASA)<br>- CubeSat Missions:<br>- LUMIO Payload LUMIO Payload for a Lunar CubeSat – Phase B - ESA study)<br>- E.Inspector Payload (Phase B - ESA study)<br>- VULCAIN Payload (Phase A/B – ESA/ASI Study)<br>- EE-10 HARMONY Optical Payload (Phase A – ESA program)<br>- Leonardo WPS for ODIN'S EYE EU program for Space Situational Awareness (SSA) and early warning capabilities.<br>- Support to Marketing / Strategic initiatives for Space LoB |
| **2009 - 2020** | **Leonardo (former Finmeccanica / Selex ES / Selex Galileo) Space LoB**<br>• Program Manager / Technical Coordinator for:<br>- EnVisS and DISC - COMET INTERCEPTOR MISSION (ESA EXPRO Contracts)<br>- Copernicus CHIME Instrument (Phase A/B1 – ESA program)<br>- Copernicus CO2M Payload Calibration Unit (Phase A/B1 – ESA program)<br>- NorthStar Hyperspectral SWIR Payload (Commercial initiative)<br>- SHALOM Payload (Phase A/B1 - ASI /ISA program)<br>- LUMIO Payload for a Lunar CubeSat – Phase A - ESA study)<br>- E.Inspector Payload (Phase A . ESA study)<br>- TIRI Optics (Thermal Infra-Red Imaging Instrument – Phase A ESA program)<br>- FLEX predevelopments activities (ESA program)<br>- 3MI for MetOp-SG Instrument and predevelopment (Phase A/B1 -ESA program)<br>- CarbonSat Payload Calibration Unit (Phase A/B1 - ESA program)<br>• Industrial Technical Leader of FORUM Proposal (selected for EE-9 Missions)<br>• Manager of several ESA / ASI Phase B2/C/D proposal (e.g. PRISMA, 3MI, LI, MAJIS) |
| **2009** | **Head of "Earth Observation Studies" Department - Selex Galileo** |
| **1995-2008** | **Galileo Avionica - Space Payload Instrument Department**<br>• Project Manager for several ESA and ASI Phase A/B1 studies including:<br>- SMLA (Superspectral Mission for Land Applications)<br>- MSI (Multi Spectral Imager) for EarthCare Mission<br>- FACS (Future Atmospheric Chemistry Sensors) |

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| | - HYPSEO Hyperspectral Camera (ASI program)<br>- LI (Lightning Imager) for MTG<br>- GEO UVN Sounder for Sentinel 4<br>• Supervisor of GOME-2 METOP spectrometer calibration and processing activity at TPD / TNO (Phase C/D)<br>• Program Manager for design and manufacturing of the avionic Hyperspectral Camera SIM.GA (Winner of Selex Galileo "Innovation Award" 2006)<br>• Convenor of an ECSS Level 3 Working Group (ECSS-E-20-09 – Optical Design) |
| **1990 - 1994** | **Officine Galileo – Optical Design Dept.**<br>• Design of lenses and scanning systems for military and civilian applications<br>• Development of software for modelling and analysis of optical systems<br>• Design of instruments for space applications (HRIS, OM/XMM, IASI) |
| **1987-1988** | **Laboratory of Ultrasound & Non-destructive Tests, Electronic Engineering Department of the University of Florence**<br>• Ultrasound images processing / statistical analysis of echographic data |

**Education**

**1989 – 1992 : Specialist Courses on:**

- Optics and Optical Design (4 months full time) – Officine Galileo (IT)
- Infrared Optical Design – Kidger Optics (UK)
- Thermal Instruments Design for Military Applications – SIRA (UK)
- Stray light analysis / design with APART (R. Breault) – Breault Research (USA)

**1987 : Master Degree (Laurea) in Electronic Engineering at the University of Florence (107/110)**

**1979 : Diploma Liceo Scientifico Leonardo da Vinci of Florence (53/60)**

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| **Nationality** | **Italian** | | | **Year of birth** | **1961** |
| **Languages** | **Italian**<br>*Mother tongue* | **English**<br>*Fluent* | **Portuguese**<br>*Intermediate* | **French**<br>*Elementary* | |

**Main Papers:** see Annex (Google Scholar contents)

# Demetrio Labate

Program Manager Earth Observation Space Instruments, Leonardo (former Finmeccanica / Selex ES)
Space Instrumentation

| | All | Since 2018 |
|---|---|---|
| Citations | 311 | 206 |
| h-index | 9 | 8 |
| i10-index | 9 | 7 |

2 articles not available

3 articles available

Based on funding mandates

| TITLE | CITED BY | YEAR |
|---|---|---|
| The PRISMA payload optomechanical design, a high performance instrument for a new hyperspectral mission<br>D Labate, M Ceccherini, A Cisbani, V De Cosmo, C Galeazzi, L Giunti, ...<br>Acta Astronautica 65 (9-10), 1429-1436 | 94 | 2009 |
| LUMIO: an autonomous CubeSat for lunar exploration<br>S Speretta, A Cervone, P Sundaramoorthy, R Noomen, S Mestry, ...<br>Space operations: inspiring Humankind's future, 103-134 | 23 | 2019 |
| LUMIO: achieving autonomous operations for Lunar exploration with a CubeSat<br>S Speretta, F Topputo, J Biggs, P Di Lizia, M Massari, K Mani, D Dei Tos, ...<br>2018 SpaceOps Conference, 2599 | 21 | 2018 |
| LUMIO: a cubesat at Earth-Moon L2<br>F Topputo, M Massari, J Biggs, P Di Lizia, D Dei Tos, K Mani, ...<br>4S Symposium, 1-15 | 20 | 2018 |
| The 3MI instrument on the Metop second generation<br>I Manolis, JL Bézy, R Meynart, M Porciani, M Loiselet, G Mason, D Labate, ...<br>International Conference on Space Optics—ICSO 2014 10563, 626-634 | 15 | 2017 |
| LUMIO: A CubeSat for observing and characterizing micro-meteoroid impacts on the lunar far side<br>A Cervone, F Topputo, S Speretta, A Menicucci, E Turan, P Di Lizia, ...<br>Acta Astronautica 195, 309-317 | 11 | 2022 |
| System design of LUMIO: A CubeSat at Earth-Moon L2 for observing lunar meteoroid impacts<br>P Sundaramoorthy, F Topputo, M Massari, J Biggs, P Di Lizia, D Dei Tos, ...<br>INTERNATIONAL ASTRONAUTICAL CONGRESS: IAC PROCEEDINGS, 1-8 | 11 | 2018 |
| An adaptive Kalman filter for speckle reductions in ultrasound images<br>G Castellini, D Labate, L Masotti, E Mannini, S Rocchi<br>Journal of Nuclear Medicine and Allied Sciences 32 (3), 208-213 | 11 | 1988 |
| Hyperspectral instruments for earth observation<br>G Preti, A Cisbani, V De Cosmo, C Galeazzi, D Labate, M Melozzi<br>International conference on Space Optics, October, 14-17 | 10 | 2008 |
| Instrument pre-development for FLEX mission<br>M Taccola, C Gal, M Kroneberger, D Lang, A Taiti, PM Coppo, E Battistelli, ...<br>International Conference on Space Optics—ICSO 2016 10562, 716-729 | 9 | 2017 |

| TITLE | CITED BY | YEAR |
|---|---|---|
| Phase a design of the lumio spacecraft: a cubesat for observing and characterizing micro-meteoroid impacts on the lunar far side<br>A Cervone, F Topputo, S Speretta, A Menicucci, J Biggs, P Di Lizia, ...<br>INTERNATIONAL ASTRONAUTICAL CONGRESS: IAC PROCEEDINGS, 1-9 | 8 | 2020 |
| Optical compressive sensing technologies for space applications: instrumental concepts and performance analysis<br>D Guzzi, G Coluccia, D Labate, C Lastri, E Magli, V Nardino, L Palombi, ...<br>International Conference on Space Optics—ICSO 2018 11180, 2266-2275 | 8 | 2019 |
| SHALOM—Space-borne hyperspectral applicative land and ocean mission<br>VG Natale, A Kafri, GA Tidhar, M Chen, T Feingersh, E Sagi, A Cisbani, ...<br>2013 5th Workshop on Hyperspectral Image and Signal Processing: Evolution in … | 8 | 2013 |
| Solar diffuser preflight calibration set-up<br>E Renotte, A Novi, D Labate, M Melozzi, C Giunti, R Meynart<br>Advanced and Next-Generation Satellites II 2957, 355-372 | 8 | 1997 |
| Lumio: Charazterizing lunar meteoroid impacts with a cubesat<br>F Topputo, M Massari, J Biggs, P Di Lizia, D Dei Tos, K Mani, ...<br>INTERNATIONAL ASTRONAUTICAL CONGRESS: IAC PROCEEDINGS, 1-11 | 6 | 2018 |
| The far infrared FTS for the FORUM mission<br>L Palchetti, M Olivieri, C Pompei, D Labate, H Brindley, G Di Natale, ...<br>Fourier transform spectroscopy, FTu3C. 1 | 6 | 2016 |
| Simulation of Meteosat Third Generation-Lightning Imager through Tropical Rainfall Measuring Mission: Lightning Imaging Sensor data<br>D Biron, L De Leonibus, P Laquale, D Labate, F Zauli, D Melfi<br>Remote Sensing System Engineering 7087, 77-88 | 5 | 2008 |
| Hyperspectral earth observer (HYPSEO) program<br>A Bini, D Labate, A Romoli, M Stagi, M Brotini, C Caprini, R De Vidi, ...<br>Proceedings of 52nd International Astronautical Congress, Toulose, France, 1-5 | 5 | 2001 |
| Design challenges and opportunities offered by the lumio spacecraft: a cubesat for observing and characterizing micro-meteoroid impacts on the lunar far side<br>A Cervone, F Topputo, S Speretta, A Menicucci, P Di Lizia, M Massari, ...<br>INTERNATIONAL ASTRONAUTICAL CONGRESS: IAC PROCEEDINGS, 1-11 | 4 | 2021 |
| WIND INTENSITY RECONSTRUCTION OVER ITALY THROUGH LAMPINET LIGHTNING DATA.<br>L De Leonibus[1], D Biron[1], M Sist, D Labate, F Zauli[1], D Melfi[1] | 4 | 2010 |
| GOME-2: the calibration results of the first flight model<br>J Callies, E Corpaccioli, M Eisinger, A Lefebvre, R Munro, ...<br>Ultraviolet Ground-and Space-based Measurements, Models, and Effects III … | 4 | 2003 |
| Hyperspectral Camera for HypSEO Mission<br>A Bini, F Brandani, M Brotini, C Caprini, R De Vidi, D Labate, A Romoli, ...<br>IAF, International Astronautical Congress, 52 nd, Toulouse, France | 3 | 2001 |
| Development of critical technologies for the COSMO/Skymed Hyperspectral Camera<br>D Labate, F Svelto | 3 | 2000 |

| TITLE | CITED BY | YEAR |
|---|---|---|
| AGENZIA SPAZIALE ITALIANA ROME | | |
| Compressive sensing instrumental concepts for space applications<br>V Raimondi, M Baldi, D Berndt, T Bianchi, GB Gallego, D Borrelli, C Corti, ...<br>Unconventional Optical Imaging III 12136, 66-72 | 2 | 2022 |
| LUMIO: A CubeSat to Monitor Micro-meteroid Impacts on the Lunar Farside<br>S Speretta, E Turan, A Cervone, A Menicucci, F Topputo, V Franzese, ...<br>2022 IEEE Aerospace Conference (AERO), 1-8 | 2 | 2022 |
| Current Status of LUMIO Mission: Characterizing Lunar Meteoroid Impacts with a CubeSat<br>F Topputo, G Merisio, C Giordano, V Franzese, M Massari, P Di Lizia, ...<br>INTERNATIONAL ASTRONAUTICAL CONGRESS: IAC PROCEEDINGS, 1-11 | 2 | 2021 |
| Lunar meteoroid impact observer: a CubeSat at Earth-Moon L2<br>F Topputo, R Walker, A Ivanov, R Noomen, DA Dei Tos, R Furfaro, ...<br>42nd COSPAR Scientific Assembly 42, B3. 1-5-18 | 2 | 2018 |
| 3MI OPD optical design: concept and performances<br>R Gabrieli, A Bartoli, M Maiorano, U Bruno, F Belli, G Bove, A Caruso, ...<br>Optical Systems Design 2015: Optical Design and Engineering VI 9626, 595-603 | 2 | 2015 |
| LUMIO: a CubeSat to monitor the lunar farside<br>G Merisio, V Franzese, C Giordano, M Massari, P Di Lizia, F Topputo, ...<br>European Planetary Science Congress, EPSC2021-282 | 1 | 2021 |
| Image irradiance distribution in the 3MI wide field of view polarimeter<br>R Gabrieli, A Bartoli, M Maiorano, U Bruno, M Olivieri, L Calamai, ...<br>Optical Systems Design 2015: Optical Design and Engineering VI 9626, 604-612 | 1 | 2015 |
| On the evaluation of PRISMA hyperspectral satellite sensitivity to significant loadings of carbon dioxide<br>W Di Nicolantonio, A Tiesi, D Labate, C Ananasso, L Candela, C Tomasi<br>2015 IEEE International Geoscience and Remote Sensing Symposium (IGARSS … | 1 | 2015 |
| Hyperspectral sensors for Earth and planetary observation at Officine Galileo<br>R Bonsignori, M Dami, D Labate, A Mariani<br>IAF, International Astronautical Congress, 50 th, Amsterdam, Netherlands | 1 | 1999 |
| Meteoroids detection with the LUMIO lunar CubeSat<br>F Topputo, G Merisio, V Franzese, C Giordano, M Massari, G Pilato, ...<br>Icarus 389, 115213 | | 2023 |
| Current Status of LUMIO: a Lunar CubeSat Mission at Earth-Moon L2<br>V Franzese, G Merisio, C Giordano, F Topputo, A Cervone, S Speretta, ...<br>4S Symposium, 1-15 | | 2022 |
| Spatial Light Modulator-Based Architecture to Implement a Super-Resolved Compressive Instrument for Earth Observation<br>V Raimondi, L Acampora, G Amato, M Baldi, D Berndt, A Bianchi, ...<br>2021 IEEE International Geoscience and Remote Sensing Symposium IGARSS, 7864 … | | 2021 |
| Designing a Compressive Sensing Demonstrator of an Earth Observation Payload in the Visible and Medium Infrared: Instrumental Concept and | | 2021 |

| TITLE | CITED BY | YEAR |
|---|---|---|
| Main Features<br>V Raimondi, L Acampora, M Baldi, D Berndt, T Bianchi, D Borrelli, C Corti, ...<br>Engineering Proceedings 8 (1), 27 | | |
| LUMIO Cubesat: a Mission to Refine Meteoroid Population Knowledge<br>F Topputo, G Merisio, C Giordano, V Franzese, M Massari, J Biggs, ...<br>7th IAA Planetary Defense Conference (PDC 2021), 1-3 | | 2021 |
| A new hyperspectral camera concept for space-borne application<br>M Pisani, M Zucco, D Labate, M Molina<br>2015 IEEE Metrology for Aerospace (MetroAeroSpace), 497-501 | | 2015 |
| Potential of convective rainfall estimation from lightning data in the context of the" Simulation of Meteosat Third Generation-Lightning Imager through Tropical Rainfall …<br>D Biron, L De Leonibus, F Zauli, D Melfi, P Laquale, D Labate<br>EGU General Assembly Conference Abstracts, 8213 | | 2009 |
| Meteosat Third Generation Lightning Imager: a discussion on user requirements and instrument features.<br>D Biron, L de Leonibus, F Zauli, D Melfi, P Laquale, D Labate<br>EGU General Assembly Conference Abstracts, 8326 | | 2009 |
| 新一代地球敏感器<br>郑克隆<br>控制工程 (北京), 54-59 | | 2003 |
| Study of a Cloud Imager for the Earth Radiation Explorer Mission<br>D Labate, C Giunti, G Cherubini, U Del Bello<br>CONTRACTOR REPORT-EUROPEAN SPACE AGENCY CR P | | 1997 |
| A cloud imager for the ESA Earth Radiation Explorer Mission<br>D Labate, C Guinti, G Cherubini, A Romoli, M Stagi, R Meynart, ...<br>IAF, International Astronautical Congress, 48 th, Turin, Italy | | 1997 |
| Interferometric analysis computer code for the infrared atmospheric sounding interferometer (IASI) fourier transform spectrometer (FTS)<br>D Labate, S Pieri, P Pili<br>Space Optics 1994: Space Instrumentation and Spacecraft Optics 2210, 652-663 | | 1994 |
| Design of the optical/UV telescope in the x-ray multimirror (XMM) optical monitor<br>A Novi, D Labate, E Antonello, MS Cropper, RG Bingham<br>Space Optics 1994: Earth Observation and Astronomy 2209, 360-370 | | 1994 |
| Design of the optical/UV telescope in the x-ray multimirror (XMM) optical monitor [2209-43]<br>A Novi, D Labate, E Antonello, MS Cropper<br>PROCEEDINGS-SPIE THE INTERNATIONAL SOCIETY FOR OPTICAL ENGINEERING, 360-360 | | 1994 |
| Interferometric analysis computer code for the infrared Atmospheric Sounding Interferometer (IASI) Fourier transform spectrometer (FTS) [2210-67]<br>D Labate, S Pieri, P Pili | | 1994 |

| TITLE | CITED BY | YEAR |
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| PROCEEDINGS-SPIE THE INTERNATIONAL SOCIETY FOR OPTICAL ENGINEERING, 652-652 | | |
| Fluorescence Lidar from satellite: concept and applications<br>G Cecchi, D Lognoli, L Palombi, A Pirri, V Raimondi, M Vannini, G Toci, ... | | |