

Stanford



Simone D'Amico

Associate Professor of Aeronautics and Astronautics and, by courtesy, of Geophysics

CONTACT INFORMATION

- **Administrator**

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Bio

BIO

Simone D'Amico is Associate Professor of Aeronautics and Astronautics (AA), W.M. Keck Faculty Scholar in the School of Engineering, and Professor of Geophysics (by Courtesy). He is the Founding Director of the Space Rendezvous Laboratory and Director of the AA Undergraduate Program. He received the B.S. and M.S. degrees from Politecnico di Milano (2003) and the Ph.D. degree from Delft University of Technology (2010). Before Stanford, Dr. D'Amico was research scientist and team leader at the German Aerospace Center (DLR) for 11 years. There he gave key contributions to formation-flying and proximity operations missions such as GRACE (NASA/DLR), PRISMA (OHB/DLR/CNES/DTU), TanDEM-X (DLR), BIROS (DLR) and PROBA-3 (ESA). His research aims at enabling future miniature distributed space systems for unprecedented remote sensing, space and planetary science, exploration and spaceflight sustainability. To this end he performs fundamental and applied research at the intersection of advanced astrodynamics, spacecraft Guidance, Navigation and Control (GNC), autonomy, decision making and space system engineering. Dr. D'Amico is institutional PI of three upcoming autonomous satellite swarm missions funded by NASA and NSF, namely STARLING, VISORS, and SWARM-EX. He is Fellow of AAS, Associate Fellow of AIAA, Associate Editor of AIAA JGCD, Advisor of NASA and several space startups. He was the recipient of several awards, including Best Paper Awards at IAF (2022), IEEE (2021), AIAA (2021), AAS (2019) conferences, the Leonardo 500 Award by the Leonardo da Vinci Society/ISSNAF (2019), FAI/NAA's Group Diploma of Honor (2018), DLR's Sabbatical/Forschungssemester (2012) and Wissenschaft Preis (2006), and NASA's Group Achievement Award for the GRACE mission (2004).

ACADEMIC APPOINTMENTS

- Associate Professor, Aeronautics and Astronautics
- Associate Professor (By courtesy), Geophysics

HONORS AND AWARDS

- NASA Group Achievement Award for the Gravity Recovery and Climate Experiment (GRACE), National Aeronautics and Space Administration (04/01/2004)
- DLR's Wissenschaft Preis 2006 (Science Award), German Aerospace Center (11/01/2006)
- Excellent Reviewer for the AIAA Journal of Guidance, Control, and Dynamics, American Institute of Aeronautics and Astronautics (10/01/2007 - 09/01/2008)
- First Class Award of the IAF 5th International Workshop on Constellations and Formation Flying, International Astronautical Federation (07/01/2008)
- Associate Member of the System Engineering Honor Society, Omega Alpha Association (12/01/2010)
- DLR's Besondere Auszeichnung 2010 for the TanDEM-X Project Team, German Aerospace Center (03/01/2011)

- Excellent Reviewer for the AIAA Journal of Guidance, Control, and Dynamics, American Institute of Aeronautics and Astronautics (10/01/2011 - 09/01/2012)
- DLR's Award for PRISMA Science Team, German Aerospace Center (12/01/2011)
- DLR's Forschungssemester (Sabbatical), German Aerospace Center (09/01/2012 - 12/01/2012)
- Excellent Reviewer for the AIAA Journal of Guidance, Control, and Dynamics, American Institute of Aeronautics and Astronautics (10/01/2012 - 09/01/2013)
- Terman Faculty Fellowship, Stanford School of Engineering (12/01/2013 - 11/30/2016)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- International Program Committee Member, International Workshop on Satellite Constellations and Formation Flying (IWSCFF) (2013 - present)
- Chairman and Organizer, 5th International Conference on Spacecraft Formation Flying Missions and Technologies (SFFMT) (2011 - 2013)
- Program Committee Member, International Conference on Spacecraft Formation Flying Missions and Technologies (SFFMT) (2008 - present)
- Co-Chair, International Conference on Spacecraft Formation Flying Missions and Technologies (SFFMT) (2008 - present)

PROFESSIONAL EDUCATION

- PhD, Technical University of Delft (The Netherlands) , Aerospace Engineering (2010)
- BS and MS, Politecnico di Milano (Italy) , Aerospace Engineering (2003)

LINKS

- Stanford's Space Rendezvous Laboratory: <https://people.stanford.edu/damicos/>
- Stanford's Aero/Astro Department: <http://aa.stanford.edu/>
- 5th SFFMT Conference: <http://www.sffmt2013.org/>

Teaching

COURSES

2023-24

- Space Flight: AA 131 (Aut)
- Space Mechanics: AA 279A (Win)
- Spacecraft Attitude Determination and Control: AA 279C (Spr)

2022-23

- Dynamics, Navigation, and Control of Distributed Space Systems: AA 279D (Spr)
- Space Flight: AA 131 (Aut)
- Space Mechanics: AA 279A (Win)

2021-22

- Space Flight: AA 131 (Aut)
- Space Mechanics: AA 279A (Win)

2020-21

- Space Flight: AA 131 (Aut)
- Space Mechanics: AA 279A (Win)
- Spacecraft Attitude Determination and Control: AA 279C (Spr)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Somrita Banerjee, Jared Blanchard, Keidai Iiyama, Zixi Liu, Molly Zhang

Postdoctoral Faculty Sponsor

Tommaso Guffanti, Justin Kruger

Doctoral Dissertation Advisor (AC)

Zahra Ahmed, Toby Bell, Pol Francesch Huc, Matthew Hunter, Samuel Low, Shane Lowe, Walter Manuel, Mason Murray-Cooper, Jeff Park

Orals Evaluator

Somrita Banerjee, Jared Blanchard, Jeff Park, Molly Zhang

Master's Program Advisor

Guillem Casadesus Vila, Pol Francesch Huc, Charlie Gordon, Noah Gordon, Anna Hylbert, Grant Regen, Anna Katharina Sulzer, Luke Virsik, Gregory Zin, Pauline de la HOGUE MORAN-BOULLOCHE-BR

Doctoral (Program)

Emily Bates, Yuji Takubo

Publications

PUBLICATIONS

- **Adaptive Neural-Network-Based Unscented Kalman Filter for Robust Pose Tracking of Noncooperative Spacecraft** *JOURNAL OF GUIDANCE CONTROL AND DYNAMICS*
Park, T., D'Amico, S.
2023
- **Starling Formation-Flying Optical Experiment (StarFOX): System Design and Preflight Verification** *JOURNAL OF SPACECRAFT AND ROCKETS*
Kruger, J., Koenig, A. W., D'Amico, S.
2023
- **Leveraging neural network uncertainty in adaptive unscented Kalman Filter for spacecraft pose estimation** *ADVANCES IN SPACE RESEARCH*
Cassinis, L., Ha Park, T., Stacey, N., D'Amico, S., Menicucci, A., Gill, E., Ahrns, I., Sanchez-Gestido, M.
2023; 71 (12): 5061-5082
- **Formation Flying Orbit and Control Concept for Virtual Super Optics Reconfigurable Swarm Mission** *JOURNAL OF GUIDANCE CONTROL AND DYNAMICS*
Koenig, A. W., D'Amico, S., Lightsey, E.
2023
- **Passively Safe and Robust Multi-Agent Optimal Control with Application to Distributed Space Systems** *JOURNAL OF GUIDANCE CONTROL AND DYNAMICS*
Guffanti, T., D'Amico, S.
2023
- **Satellite Pose Estimation Competition 2021: Results and Analyses** *ACTA ASTRONAUTICA*
Park, H., Martens, M., Jawaid, M., Wang, Z., Chen, B., Chin, T., Izzo, D., D'Amico, S.
2023; 204: 640-665
- **Analytical process noise covariance modeling for absolute and relative orbits** *ACTA ASTRONAUTICA*
Stacey, N., D'Amico, S.
2022; 194: 34-47
- **Astrostationary orbits for hybrid space and ground-based observatories** *JOURNAL OF ASTRONOMICAL TELESCOPES INSTRUMENTS AND SYSTEMS*
Peretz, E., Hamilton, C., Mather, J. C., D'Amico, S., Michaels, A., Pritchett, R., Yu, W., Wizinowich, P.
2022; 8 (1)

- **Robust Passively Safe Spacecraft Swarming via Closed-form and Optimization-based Control Approaches**
Guffanti, T., D'Amico, S., IEEE
IEEE.2022: 416-423
- **Autonomous angles-only multitarget tracking for spacecraft swarms** *ACTA ASTRONAUTICA*
Kruger, J., D'Amico, S.
2021; 189: 514-529
- **Safe, Delta-v-Efficient Spacecraft Swarm Reconfiguration Using Lyapunov Stability and Artificial Potentials** *JOURNAL OF GUIDANCE CONTROL AND DYNAMICS*
Lippe, C., D'Amico, S.
2021
- **Adaptive and Dynamically Constrained Process Noise Estimation for Orbit Determination.** *IEEE transactions on aerospace and electronic systems*
Stacey, N., D'Amico, S.
2021; 57 (5): 2920-2937
- **Fast Algorithm for Fuel-Optimal Impulsive Control of Linear Systems With Time-Varying Cost** *IEEE TRANSACTIONS ON AUTOMATIC CONTROL*
Koenig, A. W., D'Amico, S.
2021; 66 (9): 4029-4042
- **Optimal spacecraft swarm reconfiguration through chief orbit refinement** *ACTA ASTRONAUTICA*
Lippe, C., D'Amico, S.
2021; 183: 162-175
- **Spacecraft swarm dynamics and control about asteroids** *ADVANCES IN SPACE RESEARCH*
Lippe, C., D'Amico, S.
2021; 67 (11): 3426-3443
- **Generalized Angles-Only Navigation Architecture for Autonomous Distributed Space Systems** *JOURNAL OF GUIDANCE CONTROL AND DYNAMICS*
Sullivan, J., Koenig, A. W., Kruger, J., D'Amico, S.
2021; 44 (6): 1087-1105
- **Exoplanet imaging scheduling optimization for an orbiting starshade working with Extremely Large Telescopes** *JOURNAL OF ASTRONOMICAL TELESCOPES INSTRUMENTS AND SYSTEMS*
Peretz, E., Mather, J. C., Hall, K., Pabarcus, L., Canzoniero, C. M., Gilchrist, K., Lieber-Kotz, M., Slonaker, R., Yu, W. H., Hughes, S., Hur-Diaz, S., Koenig, A., D'Amico, et al
2021; 7 (2)
- **Starshade rendezvous: exoplanet sensitivity and observing strategy** *JOURNAL OF ASTRONOMICAL TELESCOPES INSTRUMENTS AND SYSTEMS*
Romero-Wolf, A., Bryden, G., Seager, S., Kasdin, N., Booth, J., Greenhouse, M., Lisman, D., Macintosh, B., Shaklan, S., Vess, M., Warwick, S., Webb, D., Ziemer, et al
2021; 7 (2)
- **Starshade Rendezvous: exoplanet orbit constraints from multi-epoch direct imaging** *JOURNAL OF ASTRONOMICAL TELESCOPES INSTRUMENTS AND SYSTEMS*
Romero-Wolf, A., Bryden, G., Agnes, G., Arenberg, J. W., Bradford, S., D'Amico, S., Debes, J., Greenhouse, M., Hu, R., Matousek, S., Rhodes, J., Ziemer, J.
2021; 7 (2)
- **Closed-Form Optimal Impulsive Control of Spacecraft Formations Using Reachable Set Theory**
Chernick, M., D'Amico, S.
AMER INST AERONAUTICS ASTRONAUTICS.2021: 25-44
- **Using a Virtual Chief to Minimize Delta-v for Satellite Swarm Maintenance in Eccentric Orbits**
Lippe, C., D'Amico, S., IEEE
IEEE.2021
- **ARTMS: Enabling Autonomous Distributed Angles-Only Orbit Estimation for Spacecraft Swarms**
Koenig, A. W., Kruger, J., Sullivan, J., D'Amico, S., IEEE
IEEE.2021: 4282-4289

- **Optimal Spacecraft Orbit Design for Inertial Alignment with Ground Telescopes**
Koenig, A. W., D'Amico, S., Peretz, E., Yu, W., Hur-Diaz, S., Mather, J., IEEE
IEEE.2021
- **Autonomous Angles-Only Navigation for Spacecraft Swarms around Planetary Bodies**
Kruger, J., Wallace, K., Koenig, A. W., D'Amico, S., IEEE
IEEE.2021
- **Precise Real-Time Relative Orbit Determination for Large-Baseline Formations Using GNSS**
Giraldo, V., D'Amico, S., Inst Navigat
INST NAVIGATION.2021: 366-384
- **Neural Network-Based Pose Estimation for Noncooperative Spacecraft Rendezvous** *IEEE TRANSACTIONS ON AEROSPACE AND ELECTRONIC SYSTEMS*
Sharma, S., D'Amico, S.
2020; 56 (6): 4638–58
- **Satellite Pose Estimation Challenge: Dataset, Competition Design, and Results** *IEEE TRANSACTIONS ON AEROSPACE AND ELECTRONIC SYSTEMS*
Kisantal, M., Sharma, S., Park, T., Izzo, D., Martens, M., Damico, S.
2020; 56 (5): 4083–98
- **Distributed multi-GNSS timing and localization for nanosatellites** *NAVIGATION-JOURNAL OF THE INSTITUTE OF NAVIGATION*
Giraldo, V., D'Amico, S.
2019; 66 (4): 729–46
- **Formation Design of Distributed Telescopes in Earth Orbit for Astrophysics Applications** *JOURNAL OF SPACECRAFT AND ROCKETS*
Koenig, A. W., Macintosh, B., D'Amico, S.
2019; 56 (5): 1462–77
- **Linear Models for Spacecraft Relative Motion Perturbed by Solar Radiation Pressure** *JOURNAL OF GUIDANCE CONTROL AND DYNAMICS*
Guffanti, T., D'Amico, S.
2019; 42 (9): 1962–81
- **Variable-Magnification Optical Stimulator for Training and Validation of Spaceborne Vision-Based Navigation** *JOURNAL OF SPACECRAFT AND ROCKETS*
Beierle, C., D'Amico, S.
2019; 56 (4): 1060–72
- **POSE ESTIMATION FOR NON-COOPERATIVE SPACECRAFT RENDEZVOUS USING NEURAL NETWORKS**
Sharma, S., D'Amico, S., Topputo, F., Sinclair, A. J., Wilkins, M. P., Zanetti, R.
UNIVELT INC.2019: 3527–46
- **Polar Orbiting Infrared Tracking Receiver (POINTR)**
Taylor, M., Roychowdhury, A., Maldonado, S., Zeng, O., Tuck, S., Adamkiewicz, M., Roy, S., Hillard, J., Radhakrishnan, M., D'Amico, S., IEEE
IEEE.2019
- **AUTONOMOUS SWARMING FOR SIMULTANEOUS NAVIGATION AND ASTEROID CHARACTERIZATION**
Stacey, N., D'Amico, S., Singla, P., Weisman, R. M., Marchand, B. G., Jones, B. A.
UNIVELT INC.2019: 3723–52
- **CLOSED-FORM OPTIMAL IMPULSIVE CONTROL OF SPACECRAFT FORMATIONS USING REACHABLE SET THEORY**
Chernick, M., D'Amico, S., Singla, P., Weisman, R. M., Marchand, B. G., Jones, B. A.
UNIVELT INC.2019: 3199–3223
- **ANGLES-ONLY NAVIGATION FOR AUTONOMOUS ON-ORBIT SPACE SITUATIONAL AWARENESS APPLICATIONS**
Sullivan, J., Lovell, T., D'Amico, S., Singla, P., Weisman, R. M., Marchand, B. G., Jones, B. A.
UNIVELT INC.2019: 2455–80
- **SECOND-ORDER ANALYTICAL SOLUTION FOR RELATIVE MOTION ON ARBITRARILY ECCENTRIC ORBITS**
Willis, M., Lovell, A., D'Amico, S., Topputo, F., Sinclair, A. J., Wilkins, M. P., Zanetti, R.
UNIVELT INC.2019: 3547–69

- **Analytical approach to spacecraft formation-flying with low-thrust relative spiral trajectories**
Willis, M., D'Amico, S.
PERGAMON-ELSEVIER SCIENCE LTD.2018: 175–90
- **Safe spacecraft swarm deployment and acquisition in perturbed near-circular orbits subject to operational constraints**
Koenig, A. W., D'Amico, S.
PERGAMON-ELSEVIER SCIENCE LTD.2018: 297–310
- **Robust and Safe N-Spacecraft Swarming in Perturbed Near-Circular Orbits** *JOURNAL OF GUIDANCE CONTROL AND DYNAMICS*
Koenig, A. W., D'Amico, S.
2018; 41 (8): 1643–62
- **New Closed-Form Solutions for Optimal Impulsive Control of Spacecraft Relative Motion**
Chernick, M., D'Amico, S.
AMER INST AERONAUTICS ASTRONAUTICS.2018: 301–19
- **Development of the Stanford GNSS Navigation Testbed for Distributed Space Systems**
Giraldo, V., D'Amico, S., Inst Navigat
INST NAVIGATION.2018: 837–56
- **Two-Stage Attitude Control for Direct Imaging of Exoplanets with a CubeSat Telescope**
Beierle, C., Norton, A., Macintosh, B., D'Amico, S., Lystrup, M., MacEwen, H. A., Fazio, G. G.
SPIE-INT SOC OPTICAL ENGINEERING.2018
- **Integration Constants as State Variables for Optimal Path Planning**
Guffanti, T., D'Amico, S., IEEE
IEEE.2018: 3197–3202
- **Pose Estimation for Non-Cooperative Spacecraft Rendezvous Using Convolutional Neural Networks**
Sharma, S., Beierle, C., D'Amico, S., IEEE
IEEE.2018
- **Nonlinear Kalman Filtering for Improved Angles-Only Navigation Using Relative Orbital Elements** *JOURNAL OF GUIDANCE CONTROL AND DYNAMICS*
Sullivan, J., D'Amico, S.
2017; 40 (9): 2183–2200
- **CONSTRAINED LOW-THRUST SATELLITE FORMATION-FLYING USING RELATIVE ORBIT ELEMENTS**
Steindorf, L. M., D'Amico, S., Scharnagl, J., Kempf, F., Schilling, K., McMahon, J. W., Guo, Y., Leve, F. A., Sims, J. A.
UNIVELT INC.2017: 3563–83
- **ADAPTIVE FILTERING FOR MANEUVER-FREE ANGLES-ONLY NAVIGATION IN ECCENTRIC ORBITS**
Sullivan, J., D'Amico, S., McMahon, J. W., Guo, Y., Leve, F. A., Sims, J. A.
UNIVELT INC.2017: 1015–38
- **LONG-TERM ANALYTICAL PROPAGATION OF SATELLITE RELATIVE MOTION IN PERTURBED ORBITS**
Guffanti, T., D'Amico, S., Lavagna, M., McMahon, J. W., Guo, Y., Leve, F. A., Sims, J. A.
UNIVELT INC.2017: 2387–2417
- **Comparative assessment of techniques for initial pose estimation using monocular vision** *ACTA ASTRONAUTICA*
Sharma, S., D'Amico, S.
2016; 123: 435-445
- **Safe Picosatellite Release from a Small Satellite Carrier** *JOURNAL OF SPACECRAFT AND ROCKETS*
Wermuth, M., Gaias, G., D'Amico, S.
2015; 52 (5): 1338-1347
- **Impulsive Maneuvers for Formation Reconfiguration Using Relative Orbital Elements** *JOURNAL OF GUIDANCE CONTROL AND DYNAMICS*
Gaias, G., D'Amico, S.
2015; 38 (6): 1036-1049

- **Angles-Only Navigation to a Noncooperative Satellite Using Relative Orbital Elements** *AIAA/AAS Astrodynamics Specialist Conference*
Gaias, G., D'Amico, S., Ardaens, J.
AMER INST AERONAUTICS ASTRONAUTICS.2014: 439–51
- **Noncooperative Rendezvous Using Angles-Only Optical Navigation: System Design and Flight Results** *JOURNAL OF GUIDANCE CONTROL AND DYNAMICS*
D'Amico, S., Ardaens, J., Gaias, G., BENNINGHOFF, H., Schlepp, B., JORGENSEN, J. L.
2013; 36 (6): 1576-1595
- **GPS-based relative navigation for the Proba-3 formation flying mission** *ACTA ASTRONAUTICA*
Ardaens, J., D'Amico, S., Cropp, A.
2013; 91: 341-355
- **Flight Results of Precise Autonomous Orbit Keeping Experiment on PRISMA Mission** *22nd AAS/AIAA Space Flight Mechanics Meeting*
De Florio, S., D'Amico, S., Radice, G.
AMER INST AERONAUTICS ASTRONAUTICS.2013: 662–74
- **Autonomous formation flying based on GPS - PRISMA flight results** *6th International Workshop on Satellite Constellation and Formation Flying (IWSCFF)*
D'Amico, S., Ardaens, J., De Florio, S.
PERGAMON-ELSEVIER SCIENCE LTD.2013: 69–79
- **Noncooperative Rendezvous using Angles-only Optical Navigation: System Design and Flight Results** *Journal of Guidance, Control, and Dynamics*
D'Amico, S., Ardaens, J., Gaias, G., Benninghoff, H., Schlepp, B., Joergensen, J. L.
2013; 36 (6): 1576-1595
- **FFRF and GPS sensor fusion for relative navigation of formation flying satellites** *5th International Conference on Spacecraft Formation Flying Missions and Technologies*
Allende, G., D'Amico, S., Montenbruck, O., Hugentobler, U., Delpech, M.
2013
- **Generalized Multi-Impulsive Maneuvers for Optimum Spacecraft Rendezvous** *5th International Conference on Spacecraft Formation Flying Missions and Technologies*
Gaias, G., D'Amico, S., Ardaens, J.
2013
- **Pose Estimation of an Uncooperative Spacecraft from Actual Space Imagery** *5th International Conference on Spacecraft Formation Flying Missions and Technologies*
D'Amico, S., Benn, M., Joergensen, J. L.
2013
- **Combined Autonomous Absolute and Relative Orbit Control in Low Earth Orbit** *5th International Conference on Spacecraft Formation Flying Missions and Technologies*
De Florio, S., D'Amico, S., Radice, G.
2013
- **PRISMA Distributed Space Missions for Earth System Monitoring**
D'Amico, S., Bodin, P., Delpech, M., Noteborn, R.
Springer Space Technology Library.2013: 599–637
- **GPS Based Relative Navigation** *Distributed Space Missions for Earth System Monitoring*
Montenbruck, O., D'Amico, S.
Springer Space Technology Library.2013: 185–223
- **Spaceborne Autonomous Formation-Flying Experiment on the PRISMA Mission** *AIAA Guidance, Navigation, and Control Conference*
D'Amico, S., Ardaens, J., Larsson, R.
AMER INST AERONAUTICS ASTRONAUTICS.2012: 834–50
- **Navigation and Control of the PRISMA Formation: In-Orbit Experience** *Journal of Mechanics Engineering and Automation*
D'Amico, S., Larsson, R.
2012; 2 (5): 312-320

- **GPS-Based Relative Navigation for the PROBA-3 Formation Flying Mission** *63rd International Astronautical Congress*
Ardaens, J., D'Amico, S., Cropp, A.
2012
- **FLIGHT RESULTS OF THE PRECISE AUTONOMOUS ORBIT KEEPING EXPERIMENT ON THE PRISMA MISSION** *22nd AAS/AIAA Space Flight Mechanics Meeting*
De Florio, S., D'Amico, S., Radice, G.
UNIVELT INC.2012: 1103–1122
- **Precise Autonomous Orbit Control in Low Earth Orbit** *AIAA/AAS Astrodynamics Specialist Conference*
De Florio, S., D'Amico, S., Radice, G.
2012
- **THE PRISMA FORMATION FLYING DEMONSTRATOR: OVERVIEW AND CONCLUSIONS FROM THE NOMINAL MISSION** *35th Annual AAS Rocky Mountain Section Guidance and Control Conference*
Bodin, P., Noteborn, R., Larsson, R., Karlsson, T., D'Amico, S., Ardaens, J. S., Delpech, M., Berges, J.
UNIVELT INC.2012: 441–460
- **Angles-only Navigation to a Non-Cooperative Satellite using Relative Orbital Elements** *AIAA/AAS Astrodynamics Specialist Conference*
Gaias, G., D'Amico, S., Ardaens, J.
2012
- **Final Commissioning of the PRISMA GPS Navigation System** *Journal of Aerospace Engineering, Sciences and Applications*
Ardaens, J., D'Amico, S., Montenbruck, O.
2012; 4 (3): 104–118
- **Flight Demonstration of Non-Cooperative Rendezvous using Optical Navigation** *23rd International Symposium on Space Flight Dynamics*
D'Amico, S., Ardaens, J., Gaias, G., Schlepp, B., Benninghoff, H., Tzschichholz, T., Karlsson, T., Joergensen, J. L.
2012
- **Final Commissioning of the PRISMA GPS Navigation System** *22nd International Symposium on Spaceflight Dynamics*
Ardaens, J., D'Amico, S., Montenbruck, O.
2011
- **GPS Navigation Based Proximity Operations by the PRISMA Satellites - Flight Results** *4th International Conference on Spacecraft Formation Flying Missions and Technologies*
Larsson, R., D'Amico, S., Noteborn, R., Bodin, P.
2011
- **Proximity Operations of On-Orbit Servicing Spacecraft using an Eccentricity/Inclination Vector Separation** *22nd International Symposium on Spaceflight Dynamics*
Spurmann, J., D'Amico, S.
2011
- **Navigation and Control of the PRISMA Formation: In-Orbit Experience** *18th IFAC World Congress*
D'Amico, S., Larsson, R.
2011
- **Formation Flying Testbed at DLR's German Space Operations Center** *8th International ESA Conference on Guidance, Navigation & Control Systems*
Gaias, G., Ardaens, J., D'Amico, S.
2011
- **In-Flight Demonstration of Formation Control based on Relative Orbital Elements** *4th International Conference on Spacecraft Formation Flying Missions and Technologies*
D'Amico, S., Ardaens, J., Larsson, R.
2011
- **Operation Concept of the Precise Autonomous Orbit Keeping Experiment on the PRISMA Mission** *8th IAA Symposium on Small Satellites for Earth Observation*
De Florio, S., D'Amico, S., Radice, G.

2011

- **Spaceborne Autonomous Formation Flying Experiment on the PRISMA Mission** *AIAA Guidance, Navigation & Control Conference*
D'Amico, S., Ardaens, J., Larsson, R.
2011
- **Autonomous Formation Flying in LEO - Seven months of routine formation flying with frequent reconfigurations** *4th International Conference on Spacecraft Formation Flying Missions and Technologies*
Larsson, R., Noteborn, R., Bodin, P., D'Amico, S., Karlsson, T., Carlsson, A.
2011
- **Early Flight Results from the TANDEM-X Autonomous Formation Flying System** *4th International Conference on Spacecraft Formation Flying Missions and Technologies*
Ardaens, J., D'Amico, S., Fischer, D.
2011
- **Relative Control of a Virtual Telescope Using Global Positioning System and Optical Metrology** *JOURNAL OF GUIDANCE CONTROL AND DYNAMICS*
Perea, L., Ardaens, J., D'Amico, S., Elosegui, P.
2010; 33 (4): 1281-1287
- **PRISMA - Formation Flying Project Close to Launch** *Small Satellites Systems and Services - The 4S Symposium*
Persson, S., Harr, J., D'Amico, S., Joergensen, J. L.
2010
- **Flight Results from the PRISMA GPS-Based Navigation** *5th ESA Workshop on Satellite Navigation Technologies, NAVITEC'2010*
Ardaens, J., D'Amico, S., Montenbruck, O.
2010
- **Autonomous Navigation and Control of Formation Flying Spacecraft on the PRISMA Mission** *61st International Astronautical Congress*
De Florio, S., D'Amico, S., Ardaens, J.
2010
- **Hardware-in-the-loop Multi-satellite Simulator for Proximity Operations** *11th Int. WS on Simulation & EGSE facilities for Space Programmes; SESP 2010*
Gaias, G., D'Amico, S., Boge, T.
2010
- **Flight Results from PRISMA Formation Flying and Rendezvous Demonstration Mission** *61st International Astronautical Congress*
Persson, S., D'Amico, S., Harr, J.
2010
- **Autonomous Formation Flying Based on GPS - PRISMA Flight Results** *6th International Workshop on Satellite Constellation and Formation Flying*
D'Amico, S., Ardaens, J., De Florio, S.
2010
- **GPS-Based Spaceborne Autonomous Formation Flying Experiment (SAFE) on PRISMA: Initial Commissioning** *AIAA/AAS Astrodynamics Specialist Conference*
D'Amico, S., Ardaens, J., De Florio, S., Montenbruck, O., Persson, S., Noteborn, R.
2010
- **Functional and Performance Validation of the PRISMA Precise Orbit Determination Facility** *2010 International Technical Meeting of the Institute-of-Navigation*
Ardaens, J., Montenbruck, O., D'Amico, S.
INST NAVIGATION.2010: 490-500
- **Differential GPS: An Enabling Technology for Formation Flying Satellites** *7th IAA International Symposium on Small Satellites for Earth Observation*
D'Amico, S., Montenbruck, O.
SPRINGER-VERLAG BERLIN.2010: 457-465
- **Spaceborne Autonomous Relative Control System for Dual Satellite Formations** *JOURNAL OF GUIDANCE CONTROL AND DYNAMICS*
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- Spacecraft Formation Flying: from Vision to Reality - Stanford University (October 6, 2012)
- DLR's Contributions to the PRISMA Mission - French Space Agency (CNES) (June 29, 2012)
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- Navigation and Control of the PRISMA Formation: In-Orbit Experience - 18th World Congress of the International Federation of Automatic Control (IFAC) (August 29, 2011)
- PRISMA Formation Flying: From Vision to Mission - German Aerospace Center (DLR) (March 15, 2011)
- Relative GPS-based Navigation for PRISMA: Flight Results - Canadian Space Agency (CSA) (January 28, 2011)
- Spacecraft Formation Flying at DLR/GSOC - University of New South Wales (UNSW) (January 21, 2011)
- DLR's Contributions to PRISMA – Flight Results - ESA's Space Research and Technology centre (ESTEC) (November 16, 2010)
- TerraSAR-X Ground-in-the-loop Orbit Control - Taiwan National Space Organization (NSPO) (November 5, 2010)
- Autonomous Formation Flying based on GPS – PRISMA Flight Results - Taiwan National Space Organization (NSPO) (November 5, 2010)
- Autonomous Formation Flying Based on GPS - PRISMA Flight Results - 6th International Workshop on Satellite Constellation and Formation Flying (November 2, 2010)
- Spaceborne Autonomous Formation Flying Experiment (SAFE) on the PRISMA Mission - German Aerospace Center (January 27, 2010)
- Differential GPS: An Enabling Technology for Formation Flying Satellites - 7th IAA Symposium on Small Satellites for Earth Observation (May 6, 2009)
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