

Dissertation:

Silvestri, S., "Investigation on Heat Transfer and Injector Design Criteria for Methane/Oxygen Rocket Combustion Chambers". Ph.D. Thesis, ISBN: 978-3-8439-4218-8, 2019.

Journals:

Schubert M., Kebschull C., Gelhaus J., and Silvestri S., "Evaluating sensor tasking strategies for object cataloging in GEO", Acta Astronautica, 2024

Böttcher, L., Silvestri, S., "Multi-perspective analysis of sustainability metrics characterising the debris environment", Acta Astronautica, Vol. 219, pp.17-23, 2024

Silvestri, S., Kirchberger, C., Schlieben, G., Celano, M.P., Haidn, O.J., "Experimental and Numerical Investigation of a Multi-Injector GOX/GCH4 Combustion Chamber, Transactions of the JSASS, Aerospace Technology Japan, Vol. 16, pp.374-381, 2018

Celano, M.P., Silvestri, S., Kirchberger, C., Schlieben, G., Suslov, D., Haidn, O.J., "Gaseous Film Cooling Investigation and Model Assessment in a Sub-scale Single Element GOX/GCH4 Combustion Chamber", Transactions of the JSASS, Aerospace Technology Japan, Vol. 14 (2016), January 2017

Silvestri, S., Celano, M.P., Kirchberger, C., Schlieben, G., Haidn, O.J., Knab, O., "Investigation on Recess Variation of a Shear Coax Injector for a Single Element GOX/GCH4 Combustion Chamber", Transactions of the JSASS, Aerospace Technology Japan, Vol. 14 (2016), p.Pa_13-Pa_20, December 2016

Höglauer, C., Kniesner, B., Knab, O., Schlieben, G., Kirchberger, C., Silvestri S., Haidn, O.J., „Modeling and Simulation of a GOX/Kerosene Subscale Rocket Combustion Chamber with Film Cooling”, CEAS Space Journal, DOI 10.1007/s12567-015-0096-y, 2015

Chapter in Books:

Celano, M.P., Silvestri, S., Schlieben, G., Kirchberger, C., Haidn, O.J., "Injector Characterization for a GOX-GCH4 Single Element Combustion Chamber", in EUCASS Advances in Aerospace Sciences, Progress in Propulsion Physics Vol. 9, edited by Max Calabro, Luigi DeLuca, Sergey M. Frolov, Luciano Galfetti, Oskar Haidn, ISBN 975-5-94588-191-4, Torus Press, Moscow, pp. 319-338, 2016

Conference and Proceedings:

Bauer, C., Dalshad, R., Schily, F., Silvestri. S., "Characterization of a Methane/Oxygen Resonance Igniter for In-Space Cryogenic Applications". AIAA SciTech 2025 Forum, AIAA 2025-1941, Orlando, Florida, 6-10 January 2025

Förster, M.; Nolte, L.; Buchholz, S.; Yang, J.; Jonckers, D.; Silvestri, S.; Thakur, A.: "Technology demonstrator for infinite length on-orbit printing (iLOOP)". IAC-24-

C2.3.11. In: 75th International Astronautical Congress (IAC). 75th International Astronautical Congress (IAC). Milan, Italy, 14 - 18 October

Nolte, L., Förster, M., Buchholz, S.; Yang, J., Jonckers, D.; Silvestri, S., Thakur, A., "Feasibility study of infinite length on-orbit printing (ILOOP)". In: European Conference on Spacecraft Structures Materials and Environmental Testing (ECSSMET) 2024. ECSSMET 2024. Noordwijk, the Netherlands, 23 – 27 September 2024

J. Caspar, T. Fiedler, C. Bauer, T. Stelzer, S. Silvestri, "Optimization and Characterization of Additively Manufactured Injectors for a Small-Scale Gas/Gas Thruster". In : Deutscher Luft- und Raumfahrtkongress. Deutscher Luft- und Raumfahrtkongress. Hamburg, Germany, 30 September - 2 October 2024

Jonckers, D.; Hirsch, P.; Wagner, T.; Silvestri, S.; Thakur, A. (2024), "Additive manufacturing of continuous fibre-reinforced space composites in a vacuum". In : Deutscher Luft- und Raumfahrtkongress. Deutscher Luft- und Raumfahrtkongress. Hamburg, Germany, 30 September - 2 October 2024

D. R. Wacker, C. Wiedemann, S. Silvestri, "A scientific approach for orbital fragmentation root cause analyses, illustrated for H-IIA 202 fairing fragmentations", presented at 45th COSPAR Scientific Assembly, Busan, South Korea, 2024

Stelzer, T., Caspar, J., Plörer, P., Dalshad, R., Schily, F., Silvestri, S., "Influence of Flow Regimes On Nozzle Throat Heat Transfer in a Capacitively Cooled Thrust Chamber", Space Propulsion, Glasgow, Scotland, May 2024

Schubert, M., Kebschull, C., Eggen, N., Silvestri, S., "Applicability of the Sensor Network Simulator Tool Suite for Proximity Operations", 25th Advanced Maui Optical and Space Surveillance Technologies (AMOS) Conference, Maui, Hawaii, September 17-20, 2024

Böttcher, L., Silvestri, S., "Multi-perspective analysis of sustainability metrics characterising the debris environment", 74th International Astronautical Congress (IAC), Baku, Azerbaijan, October 2-6, 2023

Webster, S., Myszkowski, A., Silvestri, S., Kollo Ph., Plebuch, A., "Comparison of simulation and experimental results for functional verification of a propellant mass-flow regulation device", 69th International Astronautical Congress (IAC), Bremen, Germany, October 1-5, 2018

Silvestri, S., Bauer, C., Lungu, P., O.J., O. Knab, "Axial and Azimuthal Heat Load Distribution in 7-Injector GOX/GCH4 Combustion Chamber", 2018 Joint Propulsion Conference, AIAA 2018-4552, Cincinnati, Ohio, 2018

Daimon, Y., Negishi, H., Silvestri, S., Haidn, O.J., Conjugated Combustion and Heat Transfer Simulation for a 7-Element GOX/GCH4 Rocket Combustor", 2018 Joint Propulsion Conference, AIAA 2018-4553, Cincinnati, Ohio, 2018

Daimon, Y., Negishi, H., Tani, H., Terashima, H., Silvestri, S., Haidn, O., "Comparison Study of Combustion Flow Fields and Heat Transfer Characteristics

between GCH4/GO2 Single- and Multi-Element Combustion Chambers”, Space Propulsion Conference 2018, Seville, Spain, 2018

Haidn, O.J., Bauer, C., Hong, Y., Luo, M., Roth, C., Silvestri. S., Slavinskaya, N.A., “Methane/Oxygen Combustion for Rocket Engine Applications”, 2nd Joint Conference of Aerospace Propulsion in China (JCAP), Dalian, China, August 23-26, 2017

Silvestri, S., Winter, F., Garulli, M., Celano, M.P., Schlieben, G., Haidn, O.J., O. Knab, “Investigation on Recess Variation of a Shear Coax Injector in a GOX/GCH4 Rectangular Combustion Chamber with Optical Access”, 7th European Conference for Aeronautics and Space Sciences (EUCASS), Milano, Italy, July 3- 6, 2017

Winter, F., Silvestri, S., Celano, M.P., Schlieben, G., Haidn, O.J., “High-speed and Emission Imaging of a Coaxial Single Element GOX/CH4 Rocket Combustion Chamber”, 7th European Conference on Aeronautics and Space Sciences (EUCASS), Milano, Italy, July 3-6, 2017

Silvestri, S., Kirchberger, C., Schlieben, G., Celano, M.P., Haidn, O.J., “Experimental and Numerical Investigation of a Multi-Injector GOX/GCH4 Combustion Chamber”, 31st ISTS, Matsuyama, June 3-9, 2017

Haidn, O.J., Bauer, C., Luo, M., Silvestri. S., Daimon, Y., Slavinskaya, N.A., “Green Propulsion: Experimental and Numerical Investigation of Methane/Oxygen Combustors”, Munich Aerospace Summit: Green Aerospace, Munich, Germany, June 26-28, 2017

Roth, C., Silvestri, S., Perakis, N., Haidn, O., “Experimental and numerical investigation of flow and combustion in a single element rocket combustor using GH2/GOX and GCH4/GOX as propellants”, 31st ISTS, Matsuyama, June 3-9, 2017

Haidn, O.J., Celano, M.P., Roth, C., Silvestri. S., Daimon, Y., Slavinskaya, N.A., “On Methane / Oxygen Combustion for Rocket Propulsion Applications”, 2nd Int. Conference on Combustion Science and Processes, Barcelona, Spain, April 7-8, 2017

Celano, M.P., Silvestri, S., Bauer, C., Schlieben, G., Haidn, O.J., “Comparison of a single and multi-injector GOX/GCH4 Combustion Chamber”, 52nd JPC, Salt Lake City, USA, July 25-27, 2016

Silvestri, S., Celano, M.P., Schlieben, G., Haidn, O.J., “Characterization of a Multi-Injector GOX/GCH4 Combustion Chamber”, 52nd JPC, Salt Lake City, USA, July 25-27, 2016

Silvestri, S., Celano, M.P., Schlieben, G., Knab, O., Haidn, O.J., “Test Activities on Single Element Combustion Chambers using GOX/GCH4 as propellants.”, French-German Joint Meeting on Rocket Propulsion, Toulouse, May 24-25, 2016

Celano, M.P., Silvestri, S., Haidn, O.J., Kirchberger, C., Suslov, D.I., “Overview of Test Activities at the Institut of Flight Propulsion at TUM”, French-German Joint Meeting on Rocket Propulsion, Toulouse, May 24-25, 2016

Silvestri, S., Celano, M.P., Schlieben, G., Knab, O., Haidn, O.J., "Experimental Investigation on Recess Variation of a Shear Coax Injector in a GOX-GCH4 Combustion Chamber", Space Propulsion, Rome 2016

Celano, M.P., Kirchberger, C., Silvestri, S., Suslov, D.I., Knab, O., Haidn, O.J., "Model Assessment for Gaseous Film Cooling in a Subscale Single Element CH4/GOX Combustion Chamber: Steady State Simulation and Validation", Space Propulsion, Rome 2016

Daimon, Y., Terashima, H., Negishi, H., Celano, M.P., Silvestri, S., Haidn, O.J., "Combustion Modeling Study for a CH4/GOX single element combustion chamber: Steady State Simulation and Validation", SP2016_3125263, Space Propulsion, Rome 2016

Haidn, O.J., Celano, M.P., Luo, M., Roth, C., Silvestri, S., Slavinskaya, N.A., "On Methane/Oxygen Combustion for Rocket Applications", Int. Symposium on Innovation and Prospects of Liquid Propulsion Technology, Xi'an, China, September 4-6, 2016

Silvestri, S., Celano, M.P., Kirchberger, C., Schlieben, G., Haidn, O.J., Knab, O., "Investigation on Recess Variation of a Shear Coax Injector for a Single Element GOX/GCH4 Combustion Chamber", 30th ISTS, Kobe, June, 4-10, 2015

Celano, M.P., Silvestri, S., Kirchberger, C., Schlieben, G., Suslov, D., Haidn, O.J., "Gaseous Film Cooling Investigation and Model Assessment in a Sub-scale Single Element GOX/GCH4 Combustion Chamber", 30th ISTS, Kobe, July, 4-10, 2015

Silvestri, S., Celano, M.P., Haidn, O.J., Knab, O., "Comparison of Single Element Rocket Combustion Chambers with Round an Square Cross Sections", 6th European Conference for Aeronautics and Space Sciences (EUCASS), Krakow, Poland, June 28-July 3, 2015

Celano, M.P., Silvestri, S., Perakis, N., Schily, F., Haidn, O.J., "Heat Flux Evaluation Methods for a Single Element Heat Sink Chamber", 6th European Conference for Aeronautics and Space Sciences (EUCASS), Krakow, Poland, June 28-July 3, 2015

Silvestri, S., Celano, M.P., Schlieben, G., Kirchberger, C., Haidn, O.J., Characterization of a GOX-GCH4 Single Element Combustion Chamber, Space Propulsion 2014, May 2014, 19-22, Cologne, Germany

Celano, M.P., Silvestri, S., Schlieben, G., Kirchberger, C., Haidn, O.J., Menon, S., Numerical and experimental investigation for a GOX-GCH4 shear-coaxial injector element, Space Propulsion 2014, 19-22 May 2014, Cologne, Germany

Celano, M.P., Silvestri, S., Schlieben, G., Kirchberger, C., Haidn, O.J., "Injector Characterization for a GOX-GCH4 Single Element Combustion Chamber", 5th EUCASS Symposium, Munich, Germany, 1-5 July 2013

Reports of Projects sponsored by Deutsche Forschungsgemeinschaft (DFG)

Silvestri, S., Haidn, O.J., „Experimental and Numerical Investigation of a Multi-Injector GOX-GCH₄ Combustion Chamber“, in SFB-TR40 Annual 2016 Report, C. Stemmer, N.A. Adams, R. Radespiel, T. Sattelmayer, W. Schröder, B. Weigand (Hrsg.), Lehrstuhl für Aerodynamik, TU München, 2017

Silvestri, S., Riedmann, H., Knab, O., Haidn, O.J., „Characterization of a Multi-Injector GOX/CH₄ Combustion Chamber, in SFB-TR40 Annual 2016 Report, C. Stemmer, N.A. Adams, R. Radespiel, T. Sattelmayer, W. Schröder, B. Weigand (Hrsg.), Lehrstuhl für Aerodynamik, TU München, 2016

Silvestri, S., Riedmann, H., Knab, O., Haidn, O.J., „Comparison of Single Element Combustion Chambers with Round and Square Cross Section, in SFB-TR40 Annual 2015 Report, C. Stemmer, N.A. Adams, R. Radespiel, T. Sattelmayer, W. Schröder, B. Weigand (Hrsg.), Lehrstuhl für Aerodynamik, TU München, 2015

Silvestri, S., Schlieben, G., Kirchberger, C., Haidn, O.J., Knab, O., „Film Cooling and Heat Transfer in Rocket Combustion Chambers“, in SFB-TR40 Annual 2014 Report, C. Stemmer, N.A. Adams, R. Radespiel, T. Sattelmayer, W. Schröder, B. Weigand (Hrsg.), Lehrstuhl für Aerodynamik, TU München, 2014

Höglauer, C., Knab, O., Schlieben, G., Silvestri, S., Kirchberger, C., Haidn, O.J., „Heat Transfer and Film Cooling in Rocket Combustion Chambers“, in SFB-TR40 Annual 2013 Report, C. Stemmer, N.A. Adams, R. Radespiel, T. Sattelmayer, W. Schröder, B. Weigand (Hrsg.), Lehrstuhl für Aerodynamik, TU München, 2013