

ATREX研究開発関連の論文

(1) 雑誌掲載論文 (国際)

1. N. Tanatsugu, et al., DEVELOPMENT STUDY ON THE AIR TURBO-RAMJET FOR FUTURE SPACE PLANES, Space Technology, Vol. 10, No.4, pp.225-230, 1990.
2. N. Tanatsugu, Y. Naruo, T. Sato, et al., DEVELOPMENT STUDY ON AIR TURBO RAMJET FOR A FUTURES SPACE PLANE, the Journal of Space Technology and Science, Vol. 8, No. 2, 1993.
3. N. Tanatsugu, Y. Naruo and I. Rokutannda, Test Results on Air Turbo Ramjet for a Future Space Plane, Acta Astronautica Vol.32, No.12, pp785-796, 1994.
4. N. Tanatsugu, T. Sato, et al., Development Study on ATREX Engine, Acta Astronautica, Vol. 40, No. 2-8, pp.165-170, 1997.
5. N. Tanatsugu, T. Sato, V. Balepin, et al., DEVELOPMENT STUDY ON ATREX ENGINE, Acta Astronautica Vol.41, No.12, pp.851-862, 1997.
6. Y. Kogo, H. Hatta, H. Kawada, T. Shigemura, Spin Burst Test of Carbon-Carbon Composite Disk, Journal of Composite Materials, 32(1), 1016-1035, 1998.
7. T. Sato, N. Tanatsugu, et. al., Development Study on ATREX Engine, Acta Astronautica Vol. 47, No. 11, pp.799-808, 2000.
8. K. Harada, N. Tanatsugu and T.Sato, Development Study on Precooler for ATREX Engine, AIAA Journal of Propulsion and Power, Vol.17, No.5, 2001.
9. Kozo Fujii, Kazuhiro Imai and Tetsuya Sato : Computational Analysis of the Flow Field Near the Boat-tail Region of Annular Plug Nozzles, JSME International Journal, Series B, Vol. 45, No. 4, 2002.

(2) 雑誌掲載論文 (国内)

1. 棚次巨弘：ATRエンジンの開発研究、宇宙航空、Vol.1, No.2, 1993
2. 棚次巨弘：エアターボラムジェットの開発、機械の研究、VOL.48, NO.1, 1996
3. 小林弘明, 佐藤哲也：極超音速飛翔体の機体予圧縮に関する数値解析, 日本航空宇宙学会誌, Vol.46, No.532, pp.303-310, 1998
4. 佐藤哲也, 高木郁男, 小島孝之, 小林弘明：超音速機用軸対称型エアインテークの実験研究, 日本航空宇宙学会誌, Vol.46, No.539, pp.651-659, 1998
5. 棚次巨弘：宇宙科学研究所におけるスペースプレーン用エアターボラムジェットエンジンの研究開発, 日本ガスタービン学会誌, Vol.30, NO.1, pp.69-71, 2001
6. 佐藤哲也, 棚次巨弘, 原田賢哉, 小林弘明, 富家純一郎：極超音速空気吸い込み式エンジン用予冷却器（プリクーラ）の開発研究, 日本航空宇宙学会誌, Vol.50, No.580, pp.24-31, 2002
7. 小林弘明, 佐藤哲也, 棚次巨弘：極超音速空気吸い込み式エンジンの最適設計, 日本航空宇宙学会誌, Vol.50, No.583, pp.335-342, 2002
8. 小島孝之, 佐藤哲也, 澤井秀次郎, 棚次巨弘：超音速エアブリーディングエンジンの再始動制御に関する実験研究, 日本航空宇宙学会オンラインジャーナル, Vol.1, pp.32-39, 2002
9. 小島孝之, 佐藤哲也, 棚次巨弘, 榎本吉也「可減速環境下における軸対称型エアインテークの制御に関する実験的研究」、日本航空宇宙学会紙掲載決定

(3) 学会発表論文 (国際)

1. N. Tanatsugu et al., A Study on Two-Stage Launcher with Air-Breathing Propulsion, AAS-JRS Joint Symposium held in Hawaii, 1985.
2. N. Tanatsugu et al., An Analytical Study on Two-Stage Launcher with Separate Ramjet and Rocket Propulsion, 15th International Symposium on Space Technology and Science, Tokyo, 1986.
3. N. Tanatsugu, Y. Inatani, T. Makino and T. Hiroki, Analytical Study of Space Plane Powered by Air-TurboRamjet with Intake Air Cooler, IAF- 87-264, IAF congress, Brighton, 1987.
4. N. Tanatsugu, et al., Development Study on Air Turbo-Ramjet for Future Space Plane, IAF-89-311, Malaga, 1989.
5. N. Tanatsugu, et al., Development Study on Expander Cycle Air Turbo-Ramjet with Intake Air Cooler for Space Plane, 901064, SAE Aerospace Atlantic, Dayton, 1990.
6. N. Tanatsugu, et al., Development Study on Air Turbo-Ramjet Engine for Space Plane, 17th International Symposium on Space Technology and Science, Tokyo, 1990.
7. N. Tanatsugu, Y. Naruo, et. al., Test Results of the Expander Cycle Air Turbo Ramjet for a Future Space Plane, IAF-91-271, Montreal, 1991.
8. N. Tanatsugu, Y. Naruo, et. al., Results of Sea-Level Static Tests on Air Turbo Ramjet for a Future Space Plane, 4th International Space Conference of Pacific-Basin Societies, 1991.
9. N. Tanatsugu, et al., TESTS RESULTS ON AIR TURBO RAMJET FOR A FUTURES SPACE PLANE, 4th International Aerospace Planes Conference, Orland, Florida, 1992.
10. N. Tanatsugu, et al., Test Results on Air Turbo Ramjet for a Future Space Plane, IAF-92-0657, Washington DC, 1992.
11. N. Tanatsugu, et al., Test Results on Air Turbo Ramjet Engine for a Future Space Plane, 18th International Symposium on Space Technology and Science, Tokyo, 1992.
12. N. Tanatsugu, M. Oguma, HEAT TRANSFER CHARACTERISTICS OF HYDROGEN HEATER FOR AIR TURBORAMJET ENGINE, 1st International Conference on Aerospace Heat Exchanger Technology, Palo Alto, CA, USA, 15-17 Feb. 1993.
13. A. Okura et. al., "On the Test of Carbon-Carbon Composites Turbine Blade," Advanced Composites '93, International Conference on Advanced Composites, Wollongong, Australia, 1993.
14. N. Tanatsugu, et al., Development Study on Air Turbo Ramjet Engine for a Future Space Plane, 11th International Symposium on Air Breathing Engines, Tokyo, 1993.
15. N. Tanatsugu, et al., Development Study on ATREX Engine, 44th IAF Congress, Graz, 1993.
16. Tanatsugu, N., Sato, T., et. al., DEVELOPMENT STUDY ON ATREX ENGINE, 45th IAF Congress, Jerusalem, 1994.
17. N. Tanatsugu, et al., DEVELOPMENT STUDY ON ATREX ENGINE, ISTS 94-a-02, 19th International Symposium on Space Technology and Science, Tokyo, 1994.
18. N. Tanatsugu, DEVELOPMENT STUDY ON ATREX ENGINE, 6th International Aerospace Planes Conference, Chattanooga, 1994.
19. V.V. Balepin, et. al., Development Study of Precooling for ATREX Engine, ISABE 95-7015, Proceedings of 12th ISABE, 1995.
20. N. Tanatsugu, T. Sato, V. Balepin, et. al., Development Study on ATREX Engine, IAF-95-S.5.01, 46th IAF Congress, Oslo, 1995.
21. H. Hatta, Y. Kogo, N. Tanatsugu, T. Mizutani and H. Onabe, "Application of Advanced Carbon-Carbon

- Composites to a Tip Turbine Structure of ATREX Engine," Proc. 36th AIAA/AS, E/ASCE/AHS/ASC Structures, Structural Dynamics and Materials Conference, 1465-1474, 1995.
22. H. Hatta, Y. Kogo, N. Tanatsugu, T. Mizutani and H. Onabe, Application of Advanced C/C Composites to a Tip Turbine Structure of ATREX Engine," Proc. 4th Japan International SAMPE Symposium, 1153-1158, 1995.
 23. H. Hatta, Y. Kogo, N. Tanatsugu, T. Mizutani and H. Onabe, Application of Advanced Carbon-Carbon Composites to a Tip Turbine Structure of ATREX Engine," Proc. International Gas Turbine Congress, I-81-88, 1995.
 24. N. Tanatusgu, et. al., Development Study on ATREX Engine, IAF-96-S.5.03, 47th IAF Congress, Beijing, 1996.
 25. Y. Kougo, et. al., Advanced Carbon-Carbon Composites for Tip Turbine Structure of ATREX Engine, IAF-96-I.3.05, 47th IAF Congress, Beijing, 1996.
 26. N. Tanatusgu, et. al., Development Study on ATREX Engine, AIAA 96-4553, 7th International Aerospace Planes Conference, Norfolk, VA, 1996.
 27. T. Sato, N. Tanatusgu, et. al., DEVELOPMENT STUDY ON ATREX ENGINE, 96-a-2-13, 20th International Symposium on Space Technology and Science, Tokyo, 1996.
 28. N. Tanatsugu, V. Balepin, et al., DEVELOPMENT STUDY ON AIR INTAKE AND PRECOOLER FOR ATREX ENGINE, 96-a-2-14, 20th International Symposium on Space Technology and Science, Tokyo, 1996.
 29. Y. Kogo and H. Hatta, "Joint Structures of Carbon-Carbon Composites, 20th International Symposium on Space Technology and Science," ISTS-96-b-02, 1996.
 30. H. Hatta, Y. Kogo and N. Tanatsugu, "Application of Advanced Carbon-Carbon Composites to a Tip Turbine Structure of ATREX Engine, 20th International Symposium on Space Technology and Science," ISTS-96-b-02, 1996.
 31. Y. Kogo, H. Hatta, N. Tanatsugu, T. Sato, T. Mizutani and H. Onabe, "Advanced Carbon-Carbon Composites for Tip-Turbine Structure of ATREX Engine," 47th International Astronautical Congress, IAD-96-I. 3. 5. 1996.
 32. N. Tanatsugu, V.V. Balepin, et al., ATREX Engine Development, First Practical Experience of Precooled Turbomachinery, 5th AAAF Symposium, Paris, 1996.
 33. V.V.Balepin, M.Maita, N.Tanatusgu and S.N.B.Murthy, Deep-Cooled Turbojet Augmented with Oxygen Cryojet for an SSTO Launch Vehicle, 32nd AIAA/ASME/SAE/ASEE Joint Propulsion Conference, Lake Buena Vista, FL, 1996.
 34. N. Tanatsugu, Development Study on Air Turboramjet, Chapter 6, Developments in High-Speed-Vehicle Propulsion Systems, Vol. 165, AIAA, 1996.
 35. T.Sato, N. Tanatsugu, et al., Development Study on ATREX Engine for Future Spaceplane, 7th International Space Conference of Pacific-Basin Societies, 1997.
 36. H. Kobayashi, Numerical and Experimental Study on Precompression Effect for Hypersonic Vehicle, 7th International Space Conference of Pacific-Basin Societies, 1997.
 37. K. Harada, H. Yamauchi, N. Tanatsugu, et. al., Development Study on Precooler for ATREX Engine, 7th International Space Conference of Pacific-Basin Societies, 1997.
 38. T. Sato, N. Tanatsugu, et al., DEVELOPMENT STUDY ON ATREX ENGINE SYSTEM, IAF-97-S.5.01, 48th IAF Congress, Turin, 1997.
 39. H. Hatta, N. Tanatsugu, Y. Kogo, et al., Application of Advanced Carbon-Carbon Composites to a Tip Turbine Structure of the Atrex Engine, 5th Japan International SAMPE Symposium, pp.1171-1176, Tokyo, 1997.
 40. H. Hatta, Y. Kogo, M. Yoshizawa, N. Tanatsugu, H. Onabe, M. Onozuka and F. Tomioka, " Application of Advanced Carbon-Carbon Composites to Tip Turbine Structure of the ATREX Engine," Proc. of ICCM-11, I-283-

I294, 1997.

41. H. Hatta, K. Goto, N. Tanatsugu, Y. Kogo, H. Onabe, M. Onozuka and F. Tomioka, "Application of Advanced Carbon-Carbon Composites to Tip Turbine Structure of the ATREX Engine," Proc. of International Workshop on Advanced Materials for Functional Manifestation of Frontier and Environmental Consciousness, 175-180, 1997.
42. H. Hatta, Y. Kogo, N. Tanatsugu and H. Onabe, "Application of Advanced Carbon-Carbon Composites to a Tip Turbine Structure of ATREX Engine," Proc. 3rd Japan-India Joint Seminar on Manufacturing Science of Advanced Composites, 108-117, 1997.
43. T. Sato, N. Tanatsugu, Y. Naruo and H. Hatta : Development Study on ATREX Engine , IAF-98-S.5.01, 49th International Astronautical Congress, Melbourne, 1998.
44. T. Sato, N. Tanatusgu, et al., DEVELOPMENT STUDY FOR ATREX ENGINE FLIGHT TEST, 98-a-1-29, 21st International Symposium on Space Technology and Science, Morioka, 1998.
45. K. Goto, H. Hatta, Y. Kogo, Nobuhiro Tanatsugu, H. Onabe, M. Onozuka, F. Tomioka, "Development Study of Carbon-Carbon Composite Turbine Disk for ATREX Engine, " Proceedings of The 4th International Symposium for Textile Composites,p-28-1 - p-28-8, 1998.
46. Y. Kogo, H. Hatta, H. Kawada, T. Shigemura, H. Onabe, T. Mizutani and F. Tomioka, "Spin Burst Test of Carbon-Carbon Composite Disk," Composite Materials, 32, [11], 1016-1035, 1998.
47. T. Sato, N. Tanatsugu, et al., DEVELOPMENT STUDY ON THE PRECOOLING SYSTEM OF ATREX ENGINE, IAF-99-S.5.04, 50th International Astronautical Congress, Amsterdam, 1999.
48. K. Harada, N. Tanatsugu and T.Sato, et al., Development Study on Precooler for ATREX Engine, AIAA 99-4897, 9th International Space Planes and Hypersonic Systems and Technologies Conference, Norfolk, 1999.
49. R. Akiba, T. Kanda and N. Tanatsugu, SOCIALLY AFFORDABLE FUTURE SPACE TRANS-PORTATION SYSTEM, 8th International Space Conference of Pacific-Basin Societies, Xi'an, 1999.
50. H. Kobayashi, N. Tanatsugu, T. Sato, THERMAL MANAGEMENT OF PRECOOLED ATREX ENGINE WITH EXPANDER CYCLE, 15th ISABE, Florence, 1999.
51. K. Goto, H. Hatta and N. Tanatsugu, Development Study of Carbon-Carbon Composite Turbine Disk for Future Space Propulsion System, 6 th Japan International SAMPE Symposium, 1111-1114, 1999.
52. T. Sato, N. Tanatsugu, et al., DEVELOPMENT STUDY ON THE ATREX ENGINE, IAF-00-S.5.02, 51th International Astronautical Congress, Rio de Janeiro, 2000.
53. N. Tanatsugu and N. Yatsuyanagi, Survey on Japan's Activities Related to Air Breathing Engines for Space Transportation Systems, IAF-00-V.4.05, 51th International Astronautical Congress, Rio de Janeiro, 2000.
54. H. Kobayashi, T. Sato, N. Tanatsugu, Sizing Analysis for the TSTO Fly-back Booster Powered by ATREX Engines, IAF-00-V.3.08, 51th International Astronautical Congress, Rio de Janeiro, 2000.
55. T. Kojima, N. Tanatsugu, Tetsuya Sato and Y. Enomoto, Experimental Study On Inlet Control System For Hypersonic Flight, ISTS 2000-a-08, 22nd International Symposium on Space Technology and Science, Morioka, 2000.
56. T. Sato, N. Tanatsugu, et al., DEVELOPMENT STUDY ON THE PRECOOLER OF ATREX ENGINE, ISTS 2000-a-7, 22nd International Symposium on Space Technology and Science, Morioka, 2000.
57. K. Goto, H. Hatta and N. Tanatsugu, Rotational Fracture of Carbon-Carbon Composites, 10th Iketani Conference on Materials Reserach Toward the 21st Century, Karuizawa, 2000.
58. H. Hatta and K. Goto, "Development study on Turbine Disk of Carbon-Carbon Composites," 22nd International Symposium on Space Technology and Science, Morioka, 2000.

59. H. Hatta, K. Goto, Application of Advanced Carbon-Carbon Composites to ATREX Engine," Proc. of Indo-German Workshop on High Temperature Composite Materials, 35-43, 2000.
60. T. Kojima, N. Tanatsugu, et al., DEVELOPMENT STUDY ON AXISYMMETRIC AIR INLET FOR ATREX ENGINE, 10th International Aerospace Planes Conference, Kyoto, 2001.
61. H. Kobayashi, T. Sato and N. Tanatsugu, Optimization of Airbreathing Propulsion System for the TSTO Spaceplane, AIAA-2001-1912, 10th International Space Planes and Hypersonic Systems and Technologies Conference, 2001.
62. K. Isomura, J. Omi, T. Murooka, N. Tanatsugu, T. Sato, A Feasibility Study of an ATREX Engine at Approved Technology Levels, AIAA-2001-1836, 10th International Space Planes and Hypersonic Systems and Technologies Conference, 2001.
63. K. Harada, T. Kimura, T. Sato, N. Tanatsugu, IMPROVEMENT OF PERFORMANCE OF THE PRECOOLED CYCLE ENGINE SPOILED BY ICING, AIAA-2001-1840, 10th International Space Planes and Hypersonic Systems and Technologies Conference, 2001.
64. H. Kobayashi, N. Tanatsugu, Optimization Method on TSTO Spaceplane System Powered by Air-breather, 37th AIAA/ASME/SAE/ASEE Joint Propulsion Conference, AIAA 2001-3965, Salt Lake City, 2001.
65. T. Sato, N. Tanatsugu, et. al., Countermeasures against the Icing on the ATREX Precooler, IAF-01-S.5.02, 52th International Astronautical Congress, Toulouse, 2001.
66. K. Isomura, J. Omi, N. Tanatsugu, et. al., A FEASIBILITY STUDY OF A NEW ATREX ENGINE SYSTEM OF AFT-TURBINE CONFIGURATION, IAF-01-S.5.03, 52th International Astronautical Congress, Toulouse, 2001.
67. K. Goto, H. Hatta, Tetsuya Sato and Nobuhiro Tanatsugu, "Development Study of Carbon-Carbon Turbine Disk for ATREX Engine," Proceedings of The 7 th Japan International SAMPE Symposium, 589-592, 2001.
68. H. Hatta, K. Goto, Y. Kogo and Masayuki Ichikawa, "Heat Exchangers for Air-Turbo-Ram-Jet Engine," Proceedings of High Temperature Ceramic Matrix Composites 4, Ed. W. Krenkel, R. Naslain and H. Schneider, 797-801, 2001.
69. H. Kobayashi, T. Sato, N. Tanatsugu, Evaluation of Countermeasures against Icing on the Cryogenic Precooler, 2002-a-13, 23rd International Symposium on Space Technology and Science, Matsue, 2002.
70. T. Kojima, et. al, Experimental Study on Control System of Supersonic Airbreathing Engine, 2002-a-15, 23rd International Symposium on Space Technology and Science, Matsue, 2002.
71. T. Sato, et al, Present Status of the ATREX Engine Development toward the Flight Test, 23rd International Symposium on Space Technology and Science, Matsue, 2002.