

1. Thesis and Books

No.	Paper Topic	Issuing Authority	Authors	Year of Publication	Remarks
1	A Study on Effect of Premixed Methane Gas upon Diesel Spray and Combustion in a Constant Volume Combustion Chamber	Department of Mechanical Engineering Graduate School, Pusan National University	Jae-ok Bae	February 25, 2014	Master Thesis

2. International Transaction & Journal & Proceeding

No.	Paper Topic	Journal or Conference Name	Authors	Year of Publication and Conference Site	Pages
1	Influence of the Gas Transport Properties as Functions of Temperature on NO _x Reduction with a Urea-SCR System Using Numerical Analysis	Proceedings of the FISITA 2010 World Automotive Congress (F2010-A-087)	B. W. Riyandwita, M. W. Bae and J. O. Bae	May 30 ~ June 4, 2010 Budapest, Hungary	pp. 1 ~ 8 (Electronic Form)
2	Influence of Gas Transport Properties on the Processes of Urea Thermolysis and Iso-cyanic Acid Hydrolysis in a Urea-SCR System Using CFD	Proceedings of the 21st Internal Combustion Engine Symposium (Society of Automotive Engineers of Japan, Inc. JSAE)	B. W. Riyandwita, M. W. Bae and J. O. Bae	November 10 ~ 12, 2010, Okayama University, Japan	pp. 327 ~ 330
3	Investigation on Reduction of Nitrogen Oxides Emissions Using Urea-SCR After-treatment System in a LPG Steam Boiler (ISMAI06-EP-02)	Proceedings of the Sixth International Symposium on Mechanics, Aerospace and Informatics Engineering 2012 (ISMAI-06 2012) (ISBN 978-89-94266-16-9)	M. W. Bae, W. C. Kang, B. H. Song, J. O. Bae	February 27 ~ 29, 2012 Busan Exhibition & Convention Center (BEXCO), Korea	pp. 179 ~ 183
4	Reduction Characteristics of NO _x Emissions by Optimal Urea Injection Rate in LPG Steam Boiler with a Urea-SCR Reactor	Proceedings of International Conference on Systems and Informatics (ICSAI 2012) (ISBN 978-1-4673-0197-8)	M. W. Bae, W. C. Kang, B. H. Song and J. O. Bae	May 19 ~ 20, 2012 Oriental Haitian Hotel, Yantai, China	pp. 642 ~ 646
5	Numerical Simulation of Urea Spray Characteristics on NO _x Emissions and NH ₃ Slip in a LPG Steam Boiler with Zeolite-based SCR Reactor	Proceedings of International Conference of Information Science and Computer Application 2012(ICSCA 2012)(ISSN 2251-3418)	E. F. Tanjung, M. W. Bae and J. O. Bae	November 19 ~ 20, 2012 Bali Dynasty Resort, Bali, Indonesia	pp. 133 ~ 138 (Electronic Form)
6	Reduction Characteristics of NO _x Emissions by the Combined DOC and Urea-SCR After treatment System in a LPG Steam Boiler	Proceedings of 5th Pan Asian Association of Maritime Engineering Societies (5th PAAMES) and Advanced Maritime Engineering Conference 2012(AMEC 2012) Paper No. GT-07	M. W. Bae, B. H. Song, W. C. Kang and J. O. Bae	December 10 ~ 12, 2012 Evergreen International Conference Center, Taipei, Taiwan	pp. 1 ~ 7 (Electronic Form)
7	Investigation on Reduction Characteristics of NO _x Emissions from Urea-SCR Reactor with Vanadium-based Catalyst in a LPG Steam Boiler Using Computational Fluid Dynamic (ISMAI07-EP-03)	Proceedings of the Seventh International Symposium on Mechanics, Aerospace and Informatics Engineering 2013 (ISMAI-07 2013) (ISBN 978-89-94266-17-8)	Merisha Hastarina, Myung-whan Bae, Elvira Fidelia Tanjung and Jae ok Bae	February 21 ~ 23, 2013 Hakone Pax Yoshino, Japan	pp. 157 ~ 161
8	Reduction Characteristics of Exhaust Emissions by Appropriate Urea Injection in a LPG Steam Boiler with Urea-SCR Reactor (ISMAI07-EP-05)	Proceedings of the Seventh International Symposium on Mechanics, Aerospace and Informatics Engineering 2013 (ISMAI-07 2013) (ISBN 978-89-94266-17-8)	Myung-whan Bae, Jae ok Bae, Hui-seong Park and Woo-cheol Kang	February 21 ~ 23, 2013 Hakone Pax Yoshino, Japan	pp. 167 ~ 172
9	Effect of Urea Spray Characteristics on NO _x Conversion Efficiency with Zeolite-based Catalyst in a LPG Steam Boiler by Numerical Simulation (ISMAI07-EP-07)	Proceedings of the Seventh International Symposium on Mechanics, Aerospace and Informatics Engineering 2013 (ISMAI-07 2013) (ISBN 978-89-94266-17-8)	Elvira Fidelia Tanjung, Myung-whan Bae, Jae-ok Bae and Syaiful	February 21 ~ 23, 2013 Hakone Pax Yoshino, Japan	pp. 181 ~ 185
10	Effect of the Combined DOC and Urea-SCR Aftertreatment System upon NO _x Emissions Reduction in a LPG Steam Boiler	International Symposium on Marine Engineering (ISME)	Myung-whan Bae, Jae-ok Bae and Hui-seong Park	September 15-19, 2014, Harbin, China	On Submission
11	Temperature Dependence Investigations of Gas-Phase Toluene Planar Laser-Induced Fluorescence In Rapid Compression-Expansion Machine	The First Pacific Rim Thermal Engineering Conference, PRTEC	Jaeok BAE, Susumu SATO, Hidenori KOSAKA	March 13-17, 2016, Hawaii's Big Island, USA	PRTEC-14841
12	Three dimensional measurement of near-wall velocity distribution in strong tumble of spark ignition engine	Internal Combustion Engine Symposium (JSAE&JSME)	Yoko YAMAKITA, Jaeok BAE, Hidenori KOSAKA	December 10-12, 2019, Hiroshima, Japan	JSAE-20194783

3. Domestic Transaction & Journal & Proceeding

No.	Paper Topic	Journal or Conference Name	Authors	Year of Publication and Conference Site	Pages
1	A Study of Numerical Analysis on Mixed Combustion Characteristics in a Gasoline Direct Injection Engine with Premixed Hydrogen (Published in KCI)	Transactions of the Korean Hydrogen and New Energy Society pISSN 1738 - 7364 eISSN 2288 - 7407	J. O. Bae, M. S. Choi, H. U. Suh and C. H. Jeon	December 1, 2013	Vol. 24 No.6 pp.524 ~ 534
2	A Numerical Study on Combustion and Emission Characteristics in Heavy Duty Diesel Engine with Post Injection (Published in KCI)	Transactions of the Korean Society of Automotive Engineers pISSN 1225-6382 eISSN 2234-0149	M. S. Choi, J. O. Bae, H. U. Suh B. H. Lee and C. H. Jeon	January 1, 2014	Vol. 22 No.1 pp.193 ~ 201
3	Reduction of DOC and Urea-SCR After treatment System upon NO _x Emissions in a LPG Steam Boiler	Proceedings of KSAE 2012 Busan-Ulsan- Gyeongnam Branch Spring Conference (KSAE12-Y0010)	M. W. Bae, B. H. Song, W. C. Kang, J. O. Bae	May 11, 2012. Research Institute of Mechanical Technology of Pusan National University, Korea	pp. 95 ~ 100
4	Numerical Study of Combustion Characteristics in RCCI	Proceedings of KSAE 2012 Busan-Ulsan- Gyeongnam Branch Spring Conference (KSAE12-Y0011)	J. O. Bae, M. S. Choi, H. U. Suh, D. S. Han, C. H. Jeon	May 11, 2012, RIMT of PNU, Korea	pp.101 ~ 107
5	Numerical Study on Effect of Gasoline/Diesel Ratio upon Fuel Evaporation and Ignition Characteristics in RCCI	Proceedings of KSAE 2012 Busan-Ulsan- Gyeongnam Branch Spring Conference (KSAE12-Y0012)	M. S. Choi, J. O. Bae, H. U. Suh, D. S. Han, C. H. Jeon	May 11, 2012, RIMT of PNU, Korea	pp.110 ~ 114
6	Numerical Study of Diesel Combustion Characteristics from O ₂ Fraction	Proceedings of KSAE 2012 Division Conference	J. O. Bae, N. W. Choi, M. S. Choi, D. S. Han, C. H. Jeon	May 31 ~ June 02, 2012, Hotel Hyundai, Kyungju, Korea	pp.155~ 159
7	Development of a Driving Cycle in a Military Operational Area with Unpaved Roads	Proceedings of KSAE 2012 Division Conference	M. S. Choi, J. O. Bae, D. S. Han, C. H. Jeon	May 31 ~ June 02, 2012, Hotel Hyundai, Kyungju, Korea	pp. 19 ~ 22
8	Development of DOC and Urea-SCR After treatment System for Reducing Exhaust Emissions in a LPG Steam Boiler	Proceedings of 2012 Korean Society of Marine Engineering (KOSME) Spring Conference	M. W. Bae, B. H. Song, W. C. Kang, J. O. Bae	June 21 ~ 23, 2012, Kyungju Education and Culture Center, Kyungju, Korea	p. 102
9	Effect of Urea Spray Characteristics on NO _x Emissions and NH ₃ Slip in a LPG Steam Boiler with Zeolite-based SCR Reactor by Numerical Simulation	Proceedings of 2012 KOSME Fall Conference	M. W. Bae, E. F. Tanjung and J. O. Bae	October 18 ~ 20, 2012, The Korean Register of Shipping, Busan, Korea	p. 75
10	Three-Dimensional Modeling on Reduction of NO _x Emissions by a Urea-SCR Reactor with Vanadium- based Catalyst in a LPG Steam Boiler	Proceedings of 2012 KOSME Fall Conference	M. W. Bae, M. Hastarina, E. F. Tanjung and J. O. Bae	October 18 ~ 20, 2012, The Korean Register of Shipping, Busan, Korea	p. 76
11	3D Numerical Modeling of Urea Spray Characteristics in a Urea-SCR Reactor with Zeolite-based Catalyst	Proceedings of KSAE 2012 Busan-Ulsan- Gyeongnam Branch Autumn Conference (KSAE12-Y0031)	E. F. Tanjung, M. W. Bae and J. O. Bae	November 08, 2012, International University of Korea, Jinju, Korea	pp.105 ~ 110
12	Numerical Simulation of NO _x Conversion Efficiency in a Urea-SCR Reactor with Vanadium-based Catalyst	Proceedings of KSAE 2012 Busan-Ulsan- Gyeongnam Branch Autumn Conference (KSAE12-Y0032)	M. Hastarina, M. W. Bae and J. O. Bae	November 08, 2012, International University of Korea, Jinju, Korea	pp.111 ~ 115
13	Numerical Study of Combustion and Emissions Characteristics in Gasoline with Hydrogen	Proceedings of KSAE 2012 Busan-Ulsan- Gyeongnam Branch Autumn Conference (KSAE12-Y0033)	J. O. Bae, M. S. Choi, H. U. Suh, D. S. Han, C. H. Jeon	November 08, 2012, International University of Korea, Jinju, Korea	pp.116 ~ 120
14	Numerical Study of Combustion Characteristics on LNG-Diesel Dual Fuel in Constant Volume Combustion Chamber	Proceedings of KSAE 2012 Busan-Ulsan- Gyeongnam Branch Autumn Conference (KSAE12-Y0035)	M. S. Choi, J. O. Bae, H. U. Suh, D. S. Han, C. H. Jeon	November 08, 2012, International University of Korea, Jinju, Korea	pp.125 ~ 129
15	A Numerical Study on Combustion Characteristics of Diesel Alternative Fuels in Constant Volume Combustion Chamber	Proceedings of KSAE 2013 Busan-Ulsan- Gyeongnam Branch Spring Conference	J. O. Bae, M. S. Choi, C. H. Jeon	April 26, 2013, Ulsan National Institute of Science and Technology, Ulsan, Korea	pp. 81 ~ 85

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16	A Numerical Study on the Combustion Characteristics of the Power Generation Diesel Engine by Ignition Models	Proceedings of KSAE 2013 Busan-Ulsan- Gyeongnam Branch Spring Conference	H. U Suh, J. O. Bae, B. H. Lee, D. S. Han, C. H. Jeon	April 26, 2013, Ulsan National Institute of Science and Technology, Ulsan, Korea	pp. 72 ~ 76
17	Numerical Study of Combustion Characteristics in Hydrogen Premixed Gasoline Direct Injection Engine	Proceedings of KSAE 2013 Division Conference	J. O. Bae, M. S. Choi, H. U Suh, G. B. Kim, C. H. Jeon	May 01 ~ 04, 2013, Ramada Plaza Hotel, Jeju, Korea	pp.417 ~ 421
18	Numerical Study on Combustion and Emission Characteristics of Heavy Duty Diesel Engine with LNG Additions	Proceedings of KSAE 2013 Division Conference	M. S. Choi, J. O. Bae, H. U Suh, D. S. Han, C. H. Jeon	May 01 ~ 04, 2013, Ramada Plaza Hotel, Jeju, Korea	pp.395 ~ 399
19	A Numerical Study on the Dual Fuel Combustion Characteristics of Diesel with LNG in a CVCC	Proceedings of KSAE 2013 Division Conference	H. U Suh, J. O. Bae, M. S. Choi, C. H. Jeon	May 01 ~ 04, 2013, Ramada Plaza Hotel, Jeju, Korea	pp.423 ~ 426
20	A Numerical Study on Effect of Premixed Hydrogen upon Combustion Characteristics in Hydrogen premixed Gasoline Direct Injection Engine	Proceedings of KSAE 2013 Busan-Ulsan- Gyeongnam Branch Autumn Conference	J. O. Bae, M. S. Choi, H. U Suh, C. H. Jeon	November 08, 2013 Agency for Defense Development	pp.143~ 145
21	A Numerical Study on Combustion and Emission Characteristics in Heavy Duty Diesel Engine with Post Injection	Proceedings of KSAE 2013 Busan-Ulsan- Gyeongnam Branch Autumn Conference	M. S. Choi, J. O. Bae, H. U Suh, C. H. Jeon	November 08, 2013 Agency for Defense Development	pp.120~ 123
22	Spray Characteristics of Diesel at Methane Gas Premixed Ambient Condition	Proceedings of KSAE 2013 Busan-Ulsan- Gyeongnam Branch Autumn Conference	H. U Suh, J. O. Bae, M. S. Choi, C. H. Jeon	November 08, 2013 Agency for Defense Development	pp.112~ 115
23	A Study on Effect of Premixed Methane Gas upon Diesel Droplet Mean Diameter and Combustion in Static Chamber	Proceedings of KOSCO 2013 Autumn Symposium	J. O. Bae, M. S. Choi, H. U Suh, C. H. Jeon	December 16, 2013, Hanwha Resort, Busan, Korea	pp.115 ~117

4. Awards

No.	Winning Content	Related Institutions	Year of Award	Remarks
1	Best Presentation Award (Oral Session)	KSAE 2013 Division Conference	2013. 05. 04	Best Presentation Paper Topic <Paper Topic : Numerical Study of Combustion Characteristics in Hydrogen Premixed Gasoline Direct Injection Engine>

5. Participation Status of Project Performance

No.	Project Name	Periods	Supporting Agencies	Project Type	Joint Institutions	Participating
1	Development of Evaluation Technology for High Pressure Combustion and Key Engineering Design Factors of Combustor in Gas Turbine	2011. 06. 01 ~ 2012. 08. 31	Korean Institute of Energy Technology Evaluation and Planning	Fundamental Technology Development Project of Electric Power Industry	Korea Institute of Machinery & Materials	C. H. Jeon J. H. Song and Y. J. Jang J. O. Bae, et al.
2	Characteristics Test of High Pressure Combustion	2012. 02. 09 ~ 2012. 06. 09	Korea Institute of Machinery & Materials	General Research Project		C. H. Jeon J. O. Bae, et al.
3	Spray Performance Test of SEV LANCE	2012. 04. 16 ~ 2012. 06. 10	Company	General Research Project	Sungil SIM Co., Ltd.	G. B. Kim J. O. Bae, et al.

4	Development of Compact LP EGR Cooler in Diesel Engine Vehicles	2012. 07. 01 ~ 2012. 12. 31	Ministry of Education, Science and Technology, Ministry of Knowledge Economy, National Research Foundation of Korea	Project of Leaders in Industry-University Cooperation	Daou Precision Industry Co.	M. W, Bae J. O. Bae, et al.
5	Properties Test of Bio Fuel for Alternative Fuel of Steam Power Plant	2012. 11. 08 ~ 2012. 12. 31	Company	Technical Consulting	Korea Midland Power Co., Ltd. and Duckbun Oil Co., Ltd.	C. H. Jeon J. O. Bae, et al.
6	Research on High Efficiency of Multi-flame Burner through Flame Safety (First Year)	2012. 05. 02 ~ 2013. 04. 30	Company	General Research Project	LG Electronics Co., Ltd.	C. H. Jeon J. H. Song J. O. Bae, et al.
7	Advanced Track of Engine Design Analysis and Optimization Technology for Power Generation	2012. 07. 01 ~ 2013. 06. 30	Korean Institute of Energy Technology Evaluation and Planning	Energy Human Resource Training Project		G. M. Choi C. H. Jeon J. O. Bae, et al.
8	Research and Development of Super-Learn Burn Combustion for High Efficiency Gasoline Engines	2014. 10. ~ 2018	Council for Science, Technology and Innovation (CSTI), Cross-ministerial Strategic Innovation Promotion Program (SIP), Japan Science and Technology Agency (JST)	Cross-ministerial Strategic Innovation Project. (Cabinet Office, Government of Japan)	ONO SOKKI CO.,LTD.	H.Kosaka, J. O. Bae, et al.
9	Research on knocking mechanism in the WG3800	2020. 4. ~	Company	General Research Project	KUBOTA CO.,LTD.	Y.Moriyoshi T.Kuboyama, J. O. Bae, et al.
10	Research on knocking mechanism in the WG3800	2020. 12. ~	NEDO (New Energy and Industrial Technology Development Organization)	Cross-ministerial Strategic Innovation Project. (Cabinet Office, Government of Japan)	DAIHATSU DIESEL MFG. CO., LTD. Kawasaki Heavy Industries, Ltd., Ishikawajima-Harima Heavy Industries Co., Ltd., et al.	K.Morikawa, S.Kimura J. O. Bae, et al.