

Publications

Refereed Journal Papers (*corresponding author)

Book chapter:

1. G. Tian, R. Daniel and H.M. Xu*, "DMF-A new biofuel candidate," in Biofuel/Book 2, ISBN 978-953-307-478-8,2011.

Refereed journal papers

1. X. Ma, C Jiang, H.M. Xu*, S. Shuai, "Ultra-High Speed Imaging and OH-LIF Study of DMF and MF Combustion in a DISI Optical Engine Combustion and Flame," Applied Energy, Volume 122, 1 June 2014, Pages 247–260.
dx.doi.org/10.1016/j.apenergy.2014.01.071 (<http://dx.doi.org/10.1016/j.apenergy.2014.01.071>)
2. X. Ma, C Jiang; H.M. Xu*, H. Ding; S. Shuai, "Laminar burning characteristics of 2-methylfuran and isooctane blend fuels", Fuel, Volume 116, 15 January 2014, Pages 281–291.
dx.doi.org/10.1016/j.fuel.2013.08.018 (<http://dx.doi.org/10.1016/j.fuel.2013.08.018>)
3. X. Ma, C. Jiang, H.M. Xu*, S. Shuai, and H. Ding, "Laminar Burning Characteristics of 2-Methylfuran Compared with 2,5-Dimethylfuran and Isooctane Energy Fuels", Energy & Fuels, 2013, 27 (10), pp 6212–6221.
pubs.acs.org/doi/abs/10.1021/ef401181g (<http://pubs.acs.org/doi/abs/10.1021/ef401181g>)
4. R. Daniel, H.M. Xu*, C. Wang, G. Tian and D. Richardson, "Gaseous and particulate matter emissions of biofuel blends in dual-injection compared to direct-injection and port injection", Applied Energy, Volume 105, May 2013, Pages 252–261.
dx.doi.org/10.1016/j.apenergy.2012.11.020 (<http://dx.doi.org/10.1016/j.apenergy.2012.11.020>)
5. Chongming Wang, Hongming Xu*, Ritchie Daniel; Akbar Ghafourian, Jose Herreros, Shijin Shuai, Xiao Ma, "Combustion Characteristics and Emissions of 2-Methylfuran Compared to 2,5-Dimethylfuran, Gasoline and Ethanol in a DISI Engine," Fuel, Volume 103, January 2013, Pages 200–211.
dx.doi.org/10.1016/j.fuel.2012.05.043 (<http://dx.doi.org/10.1016/j.fuel.2012.05.043>)
6. R. Daniel, L. Wei, C. Wang, H.M. Xu* and M. L. Wyszynski, "Speciation of Hydrocarbon and Carbonyl Emissions of 2,5-Dimethylfuran in a DISI Engine," Energy & Fuels, in press, 2012.
pubs.acs.org/doi/abs/10.1021/ef301236f (<http://pubs.acs.org/doi/abs/10.1021/ef301236f>)
7. L. Wei, Lixia; Z. Li, L. Tong, Z. Wang, H. Jin, M. Yao, Z. Zheng, C. Wang, H.M. Xu*, "Primary Combustion Intermediates in Lean and Rich Low-pressure premixed Laminar 2-Methylfuran/Oxygen/Argon Flames," Energy & Fuels, in press.
pubs.acs.org/doi/abs/10.1021/ef301173z (<http://pubs.acs.org/doi/abs/10.1021/ef301173z>)
8. R. Daniel, C. Wang, H.M. Xu*, G. Tian, D. Richardson. "Dual-Injection as a Knock Mitigation Strategy using pure Ethanol and Methanol", SAE International Journal of Fuels and Lubricants, 2012.
papers.sae.org/2012-01-1152/ (<http://papers.sae.org/2012-01-1152/>)
9. R. Daniel, C. Wang, H.M. Xu*, G. Tian. "Effects of Combustion Phasing, Injection Timing, Relative Air-Fuel Ratio and Variable Valve Timing on SI Engine Performance and Emissions using 2,5-Dimethylfuran", SAE International Journal of Fuels and Lubricants, 2012
papers.sae.org/2012-01-1285 (http://papers.sae.org/2012-01-1285)
10. R. Daniel, H.M. Xu*, C. Wang, G. Tian and D. Richardson, "Combustion Performance of 2,5-Dimethylfuran Blends using Dual-Injection compared to Direct-Injection in a SI Engine," Applied Energy, Volume 98, Pages 59–68, 2012.
dx.doi.org/10.1016/j.apenergy.2012.02.073 (<http://dx.doi.org/10.1016/j.apenergy.2012.02.073>)
11. E. Hu, X. Hu*, X. Wang, Y. Xu, K. Dearn, H.M. Xu, "On the Fundamental Lubricity of 2, 5-Dimethylfuran as a Synthetic Engine Fuel", Journal of Tribology International, Volume 55, November 2012, Pages 119–125.
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12. X. Wu, Q. Lia, J. ua, C. Tang, Z. Huang*, R. Daniel, R. Tian, H.M. Xu, "Laminar Burning Characteristics of 2,5-Dimethylfuran and Iso-octane Blend at Elevated Temperatures and Pressures". Fuel, 2012. 95: p. 234-240
dx.doi.org/10.1016/j.fuel.2011.11.057 (<http://dx.doi.org/10.1016/j.fuel.2011.11.057>)
13. R. Daniel, G. Tian, H.M. Xu*, S. Shuai, "Ignition Timing Sensitivities of Oxygenated Biofuels Compared to Gasoline in a Direct-Injection SI Engine," Fuel, vol. 99 September, 2012. p. 72-82
dx.doi.org/10.1016/j.fuel.2012.01.053 (<http://dx.doi.org/10.1016/j.fuel.2012.01.053>)
14. X. Wu, R. Daniel, G. Tian, H.M. Xu*, Z. Huang, D. Richardson, "Dual-Injection: the Flexible, Bi-fuel Concept for Spark-Ignition Engines fuelled with various Gasoline and Biofuel blends," Applied Energy 88 (2011) 2305–2314, 2011.
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15. D. Turner, H.M. Xu*, R. Cracknell, V. Natarajan and X. Chen, "Combustion Performance of Bio-Ethanol at Various Blend Ratios in a Gasoline Direct Injection Engine," Fuel, 90 (2011) 1999–2006, 2011.
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16. R. Daniel, G. Tian ,H.M. Xu*, M. L. Wyszynski, X. Wu, Z. Huang, "Effect of Spark Timing and Load n a DISI Engine fuelled with 2,5-Dimethylfuran," Fuel, Volume 90, Issue 2, February 2011, Pages 449-458.
dx.doi.org/10.1016/j.fuel.2010.10.008 (<http://dx.doi.org/10.1016/j.fuel.2010.10.008>)
17. G Tian, R Daniel, H Li, H.M.Xu*, S. Shuai, P. Richards, "Laminar Burning Velocities of 2,5-Dimethylfuran Compared with Ethanol and Gasoline," Energy & Fuels, 2010, 24 (7), pp 3898–3905
pubs.acs.org/doi/abs/10.1021/ef100452c (<http://pubs.acs.org/doi/abs/10.1021/ef100452c>)
18. S. Zhong, R. Daniel, H.M. Xu*, J. Zhang, M. Wyszynski, D. Turner, P. Richards, "Combustion and Emissions of 2,5-Dimethylfuran in a Direct Injection Spark-ignition Engine," Energy & Fuels, 24 (5), pp 2891–2899, 2010.
dx.doi.org/10.1021/ef901575a (<http://dx.doi.org/10.1021/ef901575a>)
19. G. Tian*, H. Li, H.M. Xu, "Spray Characteristics study of DMF Using Phase Doppler Particle Analyzer," SAE International Journal of Passenger Cars- Mechanical Systems, August ,2010 vol. 3 no. 1 948-958
papers.sae.org/2010-01-1505/ (<http://papers.sae.org/2010-01-1505/>)
20. G. Tian*, H.M.Xu, R. Daniel, H. Li, Y. Li, "Spray Characteristics and Engine Adaptability of 2,5-Dimethylfuran," Journal of Automotive Safety and Energy, 02, 2010.

SAE Technical Papers

1. Li, H., li, C., Ma, X., TU, P. et al., "Numerical Study of DMF and Gasoline Spray and Mixture Preparation in a GDI Engine," SAE Technical Paper 2013-01-1592, 2013 2. Wang, C., Xu, H., and Lattimore, T., "Impacts of Low-Level
2. Methylfuran Content in Gasoline on DISI Engine Combustion Behavior and Emissions," SAE Technical Paper 2013-01-1317, 2013

3. Xiao Ma, Changzhao Jiang, Hongming Xu, Steve Richardson. "In-cylinder Optical Study on Spray and Combustion of DMF and DMF-Gasoline Blend Fuel", SAE Paper 2012-01-1235.
4. C. Jiang, X. Ma, H.M. Xu*, S. Richardson. "An Optical Study of DMF and Ethanol Combustion under Dual-Injection Strategy", SAE Paper 2012-01-1237.
5. R. Daniel, C. Wang, H.M. Xu*, G. Tian. "Split-Injection Strategies at Wide Open Throttle using Gasoline, Ethanol and 2,5-Dimethylfuran in a Direct-Injection SI Engine", SAE Paper 2012-01-0403.
6. C. Wang, R. Daniel, X. Ma, H.M. Xu*. "Comparison of Gasoline, Bio-ethanol and 2,5-Dimethylfuran in a DISI Engine using the Miller cycle with Late Inlet Valve Closure Timing", SAE Paper 2012-01-1147.
7. C. Wang; R. Daniel, H.M. Xu*, "Research of the Atkinson Cycle in the Spark Ignition engine", SAE Paper 2012-01-0390.
8. S. Zhong, D. Turner, J. Zhang, H.M. Xu*, M. L. Wyszynski, "An Innovative Biofuel Approach – 2,5-Dimethylfuran (DMF): Combustion Performance and Emissions in a GDI Engine," SAE paper 2009-01-2824. presented at Powertrains, Fuels & Lubricants Meeting, San Antonio, Texas, USA, 2-4 Nov, 2009
9. G. Tian, H. Li, H.M. Xu*, "Spray Characteristics study of DMF Using Phase Doppler Particle Analyzer, " SAE Technical Paper 2010-01-1505.

Conference publications

1. H.M. Xu, "Further Research into X-Methylfuran Biofuels," for the International Energy Agency 35th Task Leaders Meeting of the Conservation and Emissions Reduction in Combustion Implementing Agreement, Westin St. Francis San Francisco, California. U.S.A., July 21- 25, 2013
2. H.M. Xu, "New bio-fuels from biomass in furan series," Intentional Energy Agency Ex-Co meeting and biofuels session, 23 April 2013, Paris.
3. H.M. Xu, "Research into 3 Generations of Biofuels," UK-China Clean Powertrains Systems Workshop, 28-30 March 2012, Beijing.
4. H.M. Xu, "Some Characteristics of PM Emissions of Biofuels', Cambridge PM Meetings, 18 May 2012.
5. H.M. Xu, "How far Can We go with HC Fuels for IC Engines," European Fuels Conference, Paris, 13-16 March 2012.
6. H.M. Xu: "Facing the challenge: the UK Red Brick Universities", Tsinghua University, 24 April 2011.
7. H.M. Xu , "DMF – Alternative to Ethanol?" UK-China Energy Conference, Beijing, 7-9 March 2011.
8. H.M. Xu, "IC engines – How Much Can They Improve?" Combustion Seminar, IMechE, Birmingham AD, 25 January 2011.
9. H.M. Xu, "Future of Internal Combustion Engines," UK-China Science Festival, Symposium on Clean Energy and Nanotechnology, 16-17 September 2010.
10. H.M.Xu, "Advanced Engine Research," Invited lectures in State Key of IC Engines of China, Summer School, 17-19 July 2010
11. H.M. Xu, P. Luszcz, M.L. Wyszynski, "Research into Fuel Properties for HCCI Combustion," Intentional Energy Agency HCCI Task Leader Meetings, Lake Louise, Canada, 20-24 September 2009.
12. H.M. Xu, "DMF – A new biofuel candidate," Intentional Energy Agency HCCI Task Leader Meetings, Lake Louise, Canada, 20-24 September 2009

PhD Thesis

1. Ritchie Daniel, "Combustion Characteristics of DMF in a direct injection Spark-ignition Engine," School of Mechanical Engineering, University of Birmingham, in preparation, 2011
2. Haiying Li, "Modelling Study of the Characteristics of Spray and Combustion of DMF and Ethanol," School of Mechanical Engineering, University of Birmingham, in preparation, 2011

MSc Thesis

1. Aaron Whyley, "Toxicity of 2,5-Dimethylfuran", School of Bioscience, University of Birmingham, 2011

