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Refereed Journal Publications

Prucka, R., Filipi, Z., Assanis, D., “Control-Oriented Model-Based Ignition Timing Prediction for High Degree of Freedom Spark-Ignition Engines,” IMechE, Journal of Automotive Engineering, Part D, JAUTO2073R1, Accepted, October 27, 2011.

Lee, T.K., Prucka, R., Filipi, Z., “Real-Time Estimation of Combustion Variability for Model Based Control and Optimal Calibration of SI Engines,” Proceedings of the Institution of Mechanical Engineers (IMEchE), Vol. 223 Part D, Journal of Automotive Engineering, Ref. Num. JAUTO1234R1, 2009.

Prucka, R., Filipi, Z., Assanis, D., Kramer, D., Ohl, G., “An Evaluation of Residual Gas Fraction Measurement Techniques in a High Degree of Freedom Spark Ignition Engine,” *SAE Transactions-Journal of Engines*, SAE Paper No. 2008-01-0094, SAE 2008 World Congress, (2008).

Wu, B., Filipi, Z., Prucka, R., Kramer, D., Ohl, G., “A Simulation-Based Approach for Developing Optimal Calibrations for Engines with Variable Valve Actuation,” *Oil & Gas Science and Technology-Rev. IFP*, **Vol. 62** (2007), No. 4, pp. 539-553, Paper No. 2007047, (2007).

Wu, B., Prucka, R., Filipi, Z., Kramer, D., Ohl, G., “Cam-phasing Optimization Using Artificial Neural Networks as Surrogate Models-Fuel Consumption and NO_x Emissions,” *SAE Transactions-Journal of Engines*, **Vol. 115**, SAE Paper No. 2006-01-1512, Presented at 2006 SAE World Congress, (2006).

Wu, B., Prucka, R., Filipi, Z., Kramer, D., Ohl, G., “Optimization Using Artificial Neural Networks as Surrogate Models-Maximizing Torque Output,” *SAE Transactions-Journal of Engines*, **Vol. 114**, SAE Paper No. 2005-01-3757, Presented at 2005 SAE Powertrain and Fluid Systems Conference and Exhibition, (2005).

Lee, S., Bae, C., Prucka, R., Fernandes, G., Filipi, Z., Assanis, D., “Quantification of Thermal Shock in a Piezoelectric Pressure Transducer,” *SAE Transactions-Journal of Engines*, **Vol. 114**, SAE Paper Number 2005-01-2092, Presented at 2005 SAE Fuels and Lubricants Meeting and Exhibition, (2005).

Conference Proceedings (Reviewed)

Anderson, D., Callies, J., Xiao, B., Prucka, R., "In-Cylinder Thermodynamic Analysis for Performance Engine Development," Paper No. 12MSEC-0009, SAE World Congress 2012, Motorsports – Powertrain Session, In Review, 2011.

Prucka, R., Lee, T., Filipi, Z., Assanis, D., "Turbulence Intensity Calculation from Cylinder Pressure Data in a High Degree of Freedom Spark-Ignition Engine," 2010 SAE World Congress and Expo, April 13-15, Detroit, MI, SAE Paper Number 2010-01-0175, 2010.

Divekar, P., Ayalew, B. and R. Prucka (2010), "Coordinated Electric Supercharging and Turbo-Generation for Diesel Engines", 2010 SAE World Congress and Expo, April 13-15, Detroit, MI, SAE Paper Number 2010-01-1228.

Zeng, P., Prucka, R., Filipi, Z., Assanis, D., "Reconstructing Cylinder Pressure of a Spark-Ignition Engine for Heat Transfer and Heat Release Analyses," American Society of Mechanical Engineers, Internal Combustion Engine Fall Conference, Paper Number ICEF2004-886, 2004.

Other Scholarly Publications

Prucka, R., Anderson, D., Callies, J., Xiao, B., "Firing on All Cylinders," Race Engine Technology, High Power Media, England, Vol. 9 Issue 1, pp 48-55, 2011.

Research Reports

Prucka, R., "An Experimental Characterization of a High Degree of Freedom Spark-Ignition Engine to Achieve Optimized Ignition Timing Control," University of Michigan, Dissertation, Chrysler Corporation, Doctoral Committee: D. Assanis, Z. Filipi, C. Kauffman, and G. Ohl , 2008.