Physikalisch-Technische Bundesanstalt
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National Metrology Institute

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Research Interests
Laser Diagnostics, Combustion Chemistry, Shock Tube

Education Background

2015.09 – 2021.03	School of Automotive Studies, Tongji University
Major:	Power Machinery and Engineering
Degree:	Doctor of Engineering
2011.09 – 2015.06	School of Automotive Studies, Tongji University
Major:	Vehicle Engineering
Degree:	Bachelor of Engineering

Published Papers and Patents:

- Zhu D, Deng J, Wang S, et al. Cycle resolved control for HCCI engine load range expansion by combining ion current and pressure sensor[J]. Proceedings of the Combustion Institute, 2020, 38(4):5685-5694.
- Zhu D, Deng J, Wang J, et al. Development and Application of Ion Current/Cylinder Pressure Cooperative Combustion Diagnosis and Control System[J]. Energies, 2020, 13(21):1-21.
- Zhu D, Deng J, Dewor R, et al. Ion current–based homogeneous charge compression ignition combustion control using direct water injection[J]. International Journal of Engine Research, 2021, 22(6):1825-1837.
- Zhu D, Chen Z, Chao Y, et al. Primary Study on the Transient EGR Control of GDI Turbocharged Engine by Ion Sensing Technology[J]. IFAC-PapersOnLine, 2018, 51(31): 146-153.
- Zhu D, Li C, Huang X, et al. Effect of Exhaust Gas Dilution on Ion Current Detection Technology[J]. Transactions of CSICE, 2019, 37(02):55-61.
- Zhu D, Li C, Dong G, et al. Effect Mechanism of Air/Fuel Ratio on Ion Current Signal [J]. Journal of Tongji University (Natural Science), 2018, 46(09):124-131.
- Zhu D, Deng J, Li L. Effect of High Energy Ignition Characteristics on Fuel Economy of High Compression Ratio and Lean Burn Gasoline Engine under Light Load Conditions[J]. Journal of Combustion Science and Technology, 2021, (04):394-404.
- Zhu D, Chao Y, Deng J, et al. Combined Technologies for Efficiency Improvement on a 1.0 L Turbocharged GDI Engine[C]. SAE Technical Paper 2019-01-0233, 2019.
- Zhu D, Li L, Zhang F, et al. Online Monitoring and Feedback Control of Ignition Timing Based on Ion Current Signal Phase in EGR Gasoline Engine[C]. The 9th International Conference on Modeling and Diagnostics for Advanced Engine Systems, 2017.
- Zhu D, Deng J, Dong G, et al. HCCI engine combustion diagnosis and control based on ion current[C]. 2019 Annual Conference of Combustion, Energy Saving and Purification Branch of Chinese Society for Internal Combustion Engine, Changchun, 2019.
- Li L, Zhu D, Lu H, et al. A multiple high-energy ignition system based on ion current closed-loop control: CN106150826 B[P]. 2018.

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