

Dandong Wang

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EDUCATION

- Ph. D in Power Engineering and Engineering Thermophysics 2015 - 2019
Shanghai Jiao Tong University, Shanghai, China
Dissertation: Trans-critical CO₂ heat pump for electric vehicles.
- B.E. in Mechanical Engineering 2011 - 2015
Shanghai Jiao Tong University, Shanghai, China
Thesis Title: Multiphase flow behavior in separator of air-conditioning system

RESEARCH INTERESTS:

Trans-critical CO₂ refrigeration system, low-temperature heat pump for electric vehicles, thermal management system for electric vehicles, environmental alternative refrigerants, scroll type electric compressor, ORC waste heat recovery system, supersonic phase-change swirl ejector.

JOURNAL PUBLICATIONS:

1. **Wang D**, Wang Yu, Yu D, et al. Numerical study on heat transfer performance of micro-channel gas coolers for automobile CO₂ heat pump systems[J], International Journal of Refrigeration, 2019.
2. **Wang D**, Zhang Z, Yu B, et al. Experimental research on charge determination and accumulator behavior in trans-critical CO₂ mobile air-conditioning system[J]. Energy, 2019,183: 106-115.
3. **Wang D**, Shi J, Chen J. Heat Transfer Characteristics of Gas Cooler in a CO₂ Automobile Heat Pump System, 2019-01-0912, SAE Technical Paper, SAE International, 2019.
4. **Wang D**, Yu B, Li W, et al. Heating performance evaluation of a CO₂ heat pump system for an electrical vehicle at cold ambient temperatures[J]. Applied Thermal Engineering, 2018, 142: 656-664.
5. **Wang D**, Yu B, Hu J, et al. Heating performance characteristics of CO₂ heat pump system for electrical vehicle in a cold climate[J]. International Journal of Refrigeration, 2018, 85: 27-41.
6. **Wang D**, Yu B, Shi J, et al. Experimental and Theoretical Study on the Cooling Performance of a CO₂ Mobile Air Conditioning System[J]. Energies, 2018, 11(8): 1927.
7. **Wang D**, Yu B, Chen J. System characteristics of direct and secondary loop heat pump for electrical vehicles, 2018-01-0063, SAE Technical Paper, SAE International, 2018.
8. Yu B, **Wang D**, Liu C, et al. Performance improvements evaluation of an automobile air conditioning system using CO₂-propane mixture as a refrigerant[J]. International Journal of Refrigeration, 2018, 88: 172-181.
9. Liu C, **Wang D**, Sun Z, et al. Effects of charge on the performance of R290 air conditioner with different expansion devices[J]. Applied Thermal Engineering, 2018, 140: 498-504.
10. Zhang Z, **Wang D**, Zhang C, et al. Electric vehicle range extension strategies based on improved AC system in cold climate—a Review[J]. International Journal of Refrigeration, 2018,88: 141-

150.

11. Yu B, Yang J, **Wang D**, et al. Performance Enhancement Research of a CO₂ Air Conditioning System with Propane Mechanical Subcooling for Electric Vehicle[J]. Transactions of the Japan Society of Refrigerating and Air Conditioning Engineers, 2018: 18-34.
12. **Wang D**, Liu C, Yu D, et al. Influence factors of flow distribution and a feeder tube compensation method in multi-circuit evaporators[J]. International Journal of Refrigeration, 2017, 73: 11-23.
13. **Wang D**, Liu C, Chen J. Research on the application of micro-channel evaporator in R134a roof-top bus air conditioner, 2017-01-0161, SAE Technical Paper, SAE International, 2017.
14. Liang Y Y, **Wang D**, Chen J P, et al. Temperature control for a vehicle climate chamber using chilled water system[J]. Applied Thermal Engineering, 2016, 106: 117-124.
15. Zhang C, **Wang D**, Chen J, et al. Experimental and numerical investigations of the double-barrel distributor for air conditioner[J]. International Journal of Air-Conditioning and Refrigeration, 2015, 23(03): 1550018.

CONFERENCE REPORTS

16. **Wang D**, Chen J, Study on supercritical gas cooler and trans-critical automobile heat pump with CO₂ refrigerant, International meeting of specialists on heat transfer and fluid dynamics at supercritical pressure (HFSCP), Beijing, China, 2019. (Oral report)
17. Wu J, **Wang D**, Optimization of built-in compression ratio for scroll compressor balancing cooling and heating mode, 9th International Conference on Compressor and Refrigeration (ICCR2019), Xi An, China, 2019. (Oral report)
18. Chen J, Shi J, **Wang D**, Recent advances on MAC alternative refrigerants in China, Interior Climate Control Committee, Detroit, USA, 2019.
19. **Wang D**, Yu B, Chen J. Experimental comparison of heat pump performance using CO₂ or R134a as a refrigerant for electrical vehicles, 13th Lorentzen Natural Refrigerant Conference, Valencia, Spain, 2018. (Oral report)
20. Chen J, Shi J, **Wang D**, Experimental and numerical performance study of automotive air conditioning system with alternative refrigerants, Thermal Management Systems Symposium, San Diego, USA, 2018. (Oral report)
21. **Wang D**, Liu C, Chen J. Research on the application of micro-channel evaporator in R134a roof-top bus air conditioner, WCX-World Congress Experience, Detroit, USA, 2017. (Oral report)
22. **Wang D**, Yu D, Liang Y. Visual experimental study of gas-liquid separators. Ninth National Symposium on Novel Technologies of Refrigeration and Air-conditioning, An Hui, China, 2016. (Oral report)