



7th IIR Conference on Thermophysical Properties
and Transfer Processes of Refrigerants

TPTPR 2025
College Park, Maryland USA
JUNE 15-18

Papers (DRAFT AS OF MAY 28)

ID	TITLE	PRESENTER	ORGANIZATION	COUNTRY
1100	Proposal of a Transcritical R-1234ze(E) High-Temperature Heat Pump for Industrial Heating	Mota Babiloni, Adrián	Universitat Jaume I	Spain
1101	Comparative Study of Mid- and Low-Pressure Refrigerants in Heat Pumps Connected to District Heating and Cooling Networks	Mota Babiloni, Adrián	Universitat Jaume I	Spain
1103	Optimizing Flow Condensation Models for Next-Generation Refrigerants in Axial Micro-Fin Aluminum Tubes	Hu, Yifeng	Oak Ridge Natl Lab	USA
1105	Thermodynamic Study of CO ₂ – Acetone Mixture in a Refrigeration Cycle	Rodier, Laurence	Clermont Auvergne University	France
1106	Test Stand and Model Development for Assessing Two-Phase Flow of Low-GWP Zeotropic Refrigerant Mixtures with Lubricants	Shepard, Kyle	Purdue University	USA
1107	Experimental Investigation of Thermophysical Properties of Low-Global Warming Potential Refrigerant Lubricant Mixtures Across Extreme Temperature Ranges	Venkatesan, Ganesh	Purdue Univ	USA
1108	Future Outlook on Vapor Injection and Thermal Energy Storage Integration for Air Source Heat Pump Defrosting: A Review	Yang, Jangho	Univ of Maryland	USA
1109	Cooling Effects at Decompression of a CO ₂ -Water System at Temperatures from 273.15 K to 313.15 K and Pressures up to 30 MPa	Matthes, Manuel	Chemnitz Univ of Technology	Germany
1111	Improved Heat Pump Simulation Under Consideration of the Refrigerant-Oil Solubility	Kunath, Max	Technical University-Dresden	Germany
1112	Refrigerant Mixture Composition Determination with Different Methods During Dynamic Start-Up, Charging, and Enforced Leakage Events in a Laboratory High-Temperature Heat Pump	Brendel, Leon	Eastern Switzerland Univ of Applied Sciences	Switzerland
1114	Condensation Heat Transfer and Pressure Drop of R1336mzz(Z) in a Smooth Horizontal Tube at High Saturation Temperatures	Fronk, Brian M.	Pennsylvania State Univ	USA
1115	Simulation of Fractionation of Low GWP Zeotropic Refrigerants on Modular Refrigeration Unit Performance After Leak Events	Fronk, Brian M.	Pennsylvania State Univ	USA
1117	The Gaseous Sound Speed and Density Measurements for R1132(E) and Its Binary Mixture with R1234yf	Kano, Yuya	National Inst of Advanced Industrial Science & Technology (AIST)	Japan
1118	Thermodynamic Analysis of an Absorption Refrigeration Cycle Operating with the Working Fluid Pair (CO ₂ -propylene carbonate)	Coulier, Yohann	Univ Clermont Auvergne/ Institut of Chemistry of Clermont-Ferrand	France
1119	Effect of POE/CuO Nano-Lubricant on the Performance of an R134a Domestic Reciprocating Compressor	Ndanduleni, Casey	Tshwane Univ of Technology	South Africa
1120	Monitoring the Transient Concentration of Refrigerant in Oil Using Ultrasonic TOF Method	Wang, Che	Xi'an Jiaotong Univ	China

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1121	Fast Evaluation of Refrigerant Thermophysical Properties Using Neural Networks for Transient Simulations	Ma, Jiacheng	Modelon Inc.	USA
1122	Impact of Transport Properties of Isopropanol/Acetone on the Performance of Electrochemical Looping Heat Pumps	Dai, Chaoran	Purdue Univ	USA
1123	Experimental Study on Micro-Channel Condenser with Header-Orifice Liquid-Vapor Separator in Domestic Refrigerators	Xu, Shijie	Xi'an Jiaotong Univ	China
1124	Consideration and Evaluation of the Velocity Slip for Improved Prediction of the Refrigerant Charge	Rudzik, Tim	TU Dresden	Germany
1125	Modeling of Thermophysical Properties of Refrigerants Using Neural Networks for Improving Heat Pump Optimization	Dawoud, Maged	KU Leuven	Belgium
1126	Speed of Sound Measurement of R1132(E) in the Liquid Phase Using an Ultrasonic-Pulse Sensor	Nishihashi, Kanako	National Inst of Advanced Industrial Science & Tech	Japan
1127	Foaming Characteristics of Refrigeration Oil Mixed with R454B, R32, and R1234yf Refrigerants by Stirring Action	Rakpakdee, Wannarat	Shizuoka Univ	Japan
1128	Experimental Validation of Thermo-mechanical Properties for Novel Elastocaloric Material	Mevada, Het	Univ of Maryland	USA
1129	Heat Transfer and Visual Observation of Pool Boiling of Next-Generation Low-Pressure Refrigerant: R1336mzz(Z)	Yang, Cheng-Min	Oak Ridge Natl Lab	USA
1130	Potentials of Absorption Thermal Energy Storage Systems in Seasonal Application	Höffner, Dorian	Technische Universität Berlin	Germany
1131	Experimental Analysis of Local Heat Transfer Distribution of Low-GWP Refrigerant in a Plate Heat Exchanger	Diaw, Saide	Saga University	Japan
1133	Evaluation of R-1132(E)/R-32 Mixtures: pVT Properties, Critical Parameters and Binary Interaction Parameters	Thu, Kyaw	Kyushu University	Japan
1134	Development of Evaluation Method of Self-Decomposition Reactions of Next-Generation Refrigerants 1st Report: Development of Ignition Method	Higashi, Tomohiro	Central Research Inst of Electric Power Industry	Japan
1138	Application of Zeotropic Refrigerants in Large Chillers	Low, Robert Elliott	Orbia F&EM	UK
1139	Flow Boiling Heat Transfer Investigation of New Refrigerant Blends in a Minichannel	Azzolin, Marco	Univ of Padova	Italy
1140	Experimental Study on Boiling Heat Transfer and Flow Regime of R454C in Parallel Staggered-Finned Minichannels	Numata, Natsumi	Tokyo Univ of Marine Science & Tech	Japan
1141	Experimental Analysis on Condensation Heat Transfer of Propane and a Propane/CO2 Mixture in a Minichannel	Azzolin, Marco	Univ of Padova	Italy
1142	Experimental Study on Performance Comparison of R410A Saturated Flow Boiling in 3D Printed and Extruded Micro-Channels Tubes	Huang, Long	Xi'an Jiaotong-Liverpool University	China
1146	REFPROP Revision Control Method	Johnson, Phillip	Daikin Applied	USA
1147	Experimental Flow Boiling Heat Transfer Performance of R290/R600a 50%/50% and R134a/R290/R600a 40%/30%/30% in a Horizontal Helical Evaporation Coil	Ramathe, Teboho	Tshwane Univ of Tech	South Africa
1148	A Simple Model for Heat Transfer in Annular Two-Phase Flow	Lin, Lingnan	Univ of Maryland	USA

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1150	Performance of the Ground-Source Heat Pump System for Hot Water Supply with a Small Refrigerant Charge	Kamiyama, Shotaro	Tokyo Univ of Marine Science & Tech	Japan
1153	Feasibility Study on Ammonia Heat Pump System Using Electrochemical Compressor	Kim, Dongkyu	Chung-Ang Univ	USA
1157	Performance Evaluation of HFO-Based Ionic Liquid Pairs for Double-Effect Absorption Refrigeration Systems	Lee, Yong Gyun	Chung-Ang Univ	Korea
1163	Geometric Optimization of Sinusoidal Inserts for Improved Heat Transfer Rate	Poursadegh, Mehrdad	Univ of Nebraska-Lincoln	USA
1165	Performance of Low-GWP Zeotropic Refrigerants R454C and R455A in a Medium Temperature Display Case	Birbarah, Patrick	Honeywell Internatl	USA
1167	Wall Superheat at the Onset of Nucleate Boiling of Pure Refrigerants and Zeotropic Refrigerant Mixture	Asano, Hitoshi	Kobe University	Japan