

WS-2: Workshop on JSRAE Thermodynamic Tables, Database, and Software (JARef) Based on Outcomes of the NEDO Project

Time: 10:20–12:00 (Japan Time) on 18th June 2021

Title: Updates on Thermophysical Properties Evaluations for HFOs and HCFOs

Summary:

A new thermodynamic property handbook, JARef vol.5 for HFO and HCFO Refrigerants, has been recently published by the Japan Society of Refrigerating and Air Conditioning Engineers (JSRAE).






- 8 promising low-GWP refrigerants: R1123, R1224yd(Z), R1233zd(E), R1234yf, R1234ze(E), R1234ze(Z), R1243zf, and R1336mzz(Z).
- 280 dataset accumulated from more than 140 literatures.
- 70 deviation plots from reliable equations of state or correlations for vapor pressure, density (including saturation states), heat capacity, speed of sound, thermal conductivity, viscosity, and surface tension.
- Saturation tables and p - h diagrams.
- The contents will be updated when additional experimental data or more reliable equations of state become available.

Organizer:



Ryo Akasaka (Kyushu Sangyo University)

Program:

-  “Introduction of JSRAE Thermodynamic Tables, Database, and Software (JARef) and new features of JARef vol. 5 for HFO and HCFO Refrigerants”
by Yohei Kayukawa (AIST)
-  “Surface tension and parachor data for HFO and HCFO Refrigerants included in JARef vol. 5.”
by Chieko Kondou (Nagasaki University)
-  “Current Status of the Critical Points of the Low-GWP HFO and HCFO Refrigerants in JARef vol. 5”
by Naoya Sakoda (Kyushu University)
-  “Extended Corresponding States (ECS) model for viscosity and thermal conductivity of HFO and HCFO Refrigerants in JARef vol.5”
by Keishi Kariya (Saga University)
-  “Thermophysical property tables and p - h diagrams of the Low-GWP HFO and HCFO Refrigerants in JARef vol. 5”
by Sho Fukuda (Kyushu Sangyo University)