

KRISS Publication in thermometry 2020 – 2026

Contact Thermometry

Dedyulin, S., Peruzzi, A., del Campo, D., Izquierdo, B. C. Garcia, Gomez, M. E., ... Possolo, A. (2024). From CCT-K7 to CCT-K7.2021: Approaching the definition of the triple point of water temperature. *AIP Conference Proceedings*, 3230, 050001. <https://doi.org/10.1063/5.0234488>

Yang, I., & Lee, Y.-H. (2024). Comparison of the triple-point-of-water cells at KRISS. *AIP Conference Proceedings*, 3230(1), 050004. <https://doi.org/10.1063/5.0234565>

Györe, D., Sumino, H., Yang, I., Palcsu, L., László, E., Bishop, M. C., et al. (2024). Inter-laboratory re-determination of the atmospheric $^{22}\text{Ne}/^{20}\text{Ne}$. *Chemical Geology*, 645, Article 121900. <https://doi.org/10.1016/j.chemgeo.2023.121900>

Kim, Y.-G., Kwon, S., Lee, S., & Kim, S. (2023). Enhancing the thermal gradient of thermometer calibration systems with an assembly of water heat pipes. *International Journal of Thermophysics*, 44, Article 79. <https://doi.org/10.1007/s10765-023-03181-7>

Yang, I., & Lee, Y. H. (2023). Assessment of hysteresis uncertainty in the calibration of platinum resistance thermometers. *International Journal of Thermophysics*, 44, Article 122. <https://doi.org/10.1007/s10765-023-03229-8>

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Yang, I., & Lee, Y.-H. (2021). Large-Group proficiency testing on calibration of platinum resistance thermometers from $-196\text{ }^{\circ}\text{C}$ to $650\text{ }^{\circ}\text{C}$. *International Journal of Thermophysics*, 42, Article 59. <https://doi.org/10.1007/s10765-021-02817-w>

Yang, I., Kim, S., Lee, Y. H., & Kim, Y.-G. (2021). Simplified calibration process and uncertainty assessment for sampling large numbers of single-use thermistors for upper-air temperature measurement. *Measurement Science and Technology*, 32(4), Article 045002. <https://doi.org/10.1088/1361-6501/abd0c0>

Schlamminger, S., Yang, I., & Kumar, H. (2020). Redefinition of SI units and its implications. *MAPAN*, 35(4), 471–474. <https://doi.org/10.1007/s12647-020-00421-1>

Radiation Thermometry

Yang, I., Yoo, Y. S., Kim, B.-H., Kim, S., & Kim, Y.-G. (2025). Measurement of melting and freezing temperature of iron using radiation thermometry. *Metrologia*, 62(2), 025005. <https://doi.org/10.1088/1681-7575/adb492>

Metrology for Meteorology

Kim, Y.-G., Kwon, S., & Kim, S. (2026). Effects of a cylindrical subchamber on the calibration uncertainty of the thermometer in the climate chamber. *International Journal of Thermophysics*, 47, Article 73. <https://doi.org/10.1007/s10765-026-03751-5>

Kim, S. M., Lee, Y.-S., Choi, B.-I., Kim, S., Kim, Y.-G., Choi, Y., & Lee, S.-W. (2025). Evaluating calibration uncertainty and response time of RS41 humidity sensors under a ventilation speed of 5 m s⁻¹. *Meteorological Applications*, 32(5), e70097. <https://doi.org/10.1002/met.70097>

Park, J.-W., Kim, J.-W., Lee, S., & Kim, Y.-G. (2022). Air temperature dependencies on the structure of thermometer screens in summer at Daejeon, South Korea. *Meteorological Applications*, 29(3), e2064. <https://doi.org/10.1002/met.2064>

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Humidity and Moisture

Lee, S.-W., Lee, Y.-S., Choi, B.-I., Kim, Y.-G., & Kim, S. (2024). Relative humidity measurements of a thin-film humidity sensor in condensing conditions in the temperature range from –40 °C to 5 °C. *Measurement Science and Technology*, 35(7), Article 075801. <https://doi.org/10.1088/1361-6501/ad3c62>

Lee, S.-W., Lee, Y.-S., & Choi, B. I. (2025). Comparing frost-point measurements with alternating air, nitrogen, and methane in a saturator to determine a water vapor enhancement factor ratio and its uncertainty. *Metrologia*, 62(4), 45006. <https://doi.org/10.1088/1681-7575/adf444>

Lee, S.-W., Woo, S.-B., Kim, J. C., Jang, E. J., & Choi, B. I. (2021). Development of a new KRIS low frost-point generator with improved uncertainty from 7 nmol mol⁻¹ to 1000 nmol mol⁻¹. *Metrologia*, 58(6), Article 065002. <https://doi.org/10.1088/1681-7575/ac27f1>

Thermophysical Quantities

Lee, S., Kim, D., Lee, S. H., Kang, W., Xiao, X., & Kwon, S. (2025). Measurement system for the specific heat of refrigerants. *High Temperatures-High Pressures*, 54(1), 39–50. <https://doi.org/10.32908/hthp.v54.1859>

Kim, D., Lee, S., & Kwon, S. (2025). Evaluation of the in-plane thermal diffusivity of graphite sheet by laser flash method. *High Temperatures-High Pressures*, 54(1), 19–26. <https://doi.org/10.32908/hthp.v54.1873>

Kim, D., Kwon, S., & Lee, S. (2024). Temperature and enthalpy of fusion calibration of Calvet calorimeter from –150 °C to 156 °C. *International Journal of Nanotechnology*, 21(3), 204–211. <https://doi.org/10.1504/IJNT.2024.137420>

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Kim, D., Lee, S., & Kwon, S. (2021). Evaluation of thermal conductivity of thermal barrier coating by a laser flash method and a differential scanning calorimeter. *Journal of the Korean Physical Society*, 79(9), 953–960. <https://doi.org/10.1007/s40042-021-00311-y>

Kim, D., Lee, S., & Yang, I. (2021). Verification of thermal conductivity measurements using guarded hot plate and heat flow meter methods. *Journal of the Korean Physical Society*, 78(12), 1196–1202. <https://doi.org/10.1007/s40042-021-00177-0>

Key/Supplementary Comparison Report

Peruzzi, A., Dedyulin, S., Levesque, M., del Campo, D., Izquierdo, B. C. Garcia, Gomez, M. E., ... Possolo, A. (2023). CCT-K7.2021: CIPM key comparison of water-triple-point cells. *Metrologia*, 60(1A), Article 03002. <https://doi.org/10.1088/0026-1394/60/1A/03002>

Herman, T., Chojnacky, M. J., Hill, K., Rudtsch, S., Yang, I., Steur, P. P. M., ... Gray, J. (2023). ITS-90 SPRT calibration from the Ar TP to the Zn FP. *Metrologia*, 60(1A), Article 03001. <https://doi.org/10.1088/0026-1394/60/1A/03001>

Key/Supplementary comparison piloted by KRISS (Ongoing or recently completed)

APMP.T-K7.2021, Comparison of Water Triple Point Cells, Report in progress, Draft A

APMP.T-K4.2, Realization of the aluminium freezing-point temperature, Approved for equivalence (2026), <https://doi.org/https://doi.org/10.59161/ZHMZ7323>

APMP.T-S10, Thermal conductivity, Measurements completed

APMP.T-S17, Air Thermometers, Measurements completed