

The Future of the Kelvin and the International Temperature Scale: Hot Topics for the National Metrology Institutes

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Abstract

Recent events suggest that the kilogram, ampere, kelvin, and mole will be redefined as early as 2011. What are the implications of the change in the kelvin for the thermometry community? The International Temperature Scale has undergone periodic, but regular, changes since it was introduced in 1927. Major revisions followed in 1948, 1968, and 1990. It will soon be 20 years since the last revision of the ITS, so should we anticipate another revision to soon appear? If so, what changes should we anticipate? There is reason to believe that the International Temperature Scale as we know it may disappear altogether, if national metrology institutes prove capable of disseminating thermodynamic temperature directly. What research and development activities are underway that may make this a reality?