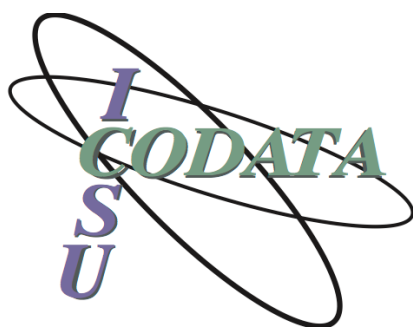


The CODATA 2017 Special Adjustment of the Fundamental Constants and the New SI

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| Quantity | Value |
|----------------|--|
| h | $6.626\,070\,15 \times 10^{-34} \text{ J s}$ |
| e | $1.602\,176\,634 \times 10^{-19} \text{ C}$ |
| k | $1.380\,649 \times 10^{-23} \text{ J K}^{-1}$ |
| N_{A} | $6.022\,140\,76 \times 10^{23} \text{ mol}^{-1}$ |

Table 1: The CODATA 2017 values of h , e , k , and N_{A} for the new SI

The international system of units (SI) has been slowly evolving from an artifact-based system to one based on values of fundamental constants and invariant properties of atoms. International consensus on the foundation of a new SI based on exactly defined values of the Planck constant h , elementary charge e , Boltzmann constant k , and Avogadro constant N_{A} was reached during the 24th meeting of the General Conference on Weights and Measures (CGPM). Progress in the accuracy and consistency of the research results has enabled the International Committee for Weights and Measures (CIPM) at its 106th meeting to recommend to the CGPM to proceed with the adoption of the new SI. This presentation summarizes the 2017 special least-squares adjustment performed by the Committee on Data for Science and Technology (CODATA) that determined the exact values of h , e , k , and N_{A} given in Table 1 based on relevant data that was available by 1 July 2017. These values are recommended to the 26th CGPM to form the foundation of the new SI when it meets on 13 – 16 November 2018.