

## **DIVISION A / FUNCTIONAL WORKING GROUP**

### **NUMERICAL STANDARDS IN FUNDAMENTAL ASTRONOMY**

#### **CHAIR** **Members**

**Brian Luzum**  
**Steven A. Bell**  
**Nicole Capitaine**  
**Agnès Fienga**  
**William Folkner**  
**Toshio Fukushima**  
**Robert Heinkelmann**  
**James L. Hilton**  
**Catherine Hohenkerk**  
**Gérard Petit**  
**Elena Pitjeva**  
**Michael Soffel**  
**Patrick Wallace**

#### **TRIENNIAL REPORT 2019-2021**

##### **1. Introduction**

The IAU Working Group (WG) on Numerical Standards for Fundamental Astronomy (NSFA) is tasked with updating the IAU Current Best Estimates (CBEs), conforming with the IAU Resolutions, International Earth Rotation and Reference Systems Service (IERS) conventions, and the *Système International* d'unités whenever possible. As part of its effort to achieve these objectives, the WG works in close cooperation with the IAU, the IERS, and the Bureau International des poids et mesures (BIPM) Consultative Committee for Units.

##### **2. Developments during the current triennium**

The working group's web site at <https://maia.usno.navy.mil> was taken offline in the autumn of 2019 as it undergoes modernization. As of autumn 2020 the web site had not been restored and so it was moved to <https://iau-a3.gitlab.io/NSFA> with help from IAU Commission A3: Fundamental Standards (A3) where it is a part of A3's web site. An additional advantage of this move is the web site is now independent of a single institution.

As of the 2018 IAU General Assembly (GA), the uncertainties of the values of the best estimates of the fundamental constants have stabilized to the point that any changes to their values are likely to be small for the foreseeable future. Thus the NSFA finds itself with little work to do. Those WG members attending the WG meeting at the GA approved a recommendation that the WG:

- (a) adopt a mechanism to deal with possible future updates to fundamental standards,
- (b) write a final report, and
- (c) recommend its dissolution.

The large overlap in the work of A3 with that of the WG<sup>†</sup> suggests that A3 should act as the mechanism to call for working groups as needed to revise the fundamental standards when required. And this report constitutes the final report of the WG.

### 3. Closing remarks

I acknowledge and thank all the WG members for their support. Thanks also go to Susan Stewart for her work moving the web site to its new location and James Hilton for drafting this report.

Brian Luzum  
*chair of Working Group*

<sup>†</sup> 85% of the WG members are also members of Commission A3.