

# Division A WG on Time Metrology Standards

E. Felicitas Arias  
Chair

IAU GA 2022 – Division Days  
5 & 8 August 2022, Busan, Korea

# Objectives, membership

- ▶ Functional Division A Working Group created at the IAU GA 2015
- ▶ Objective is to enhance the interaction with the time metrology community
- ▶ Membership is varied, includes astronomers, geodesists, time metrologists and liaisons to other relevant organizations

B. Archinal

F. Arias (chair)

A. Brzeziński

N. Capitaine

W. Dick

B. Fang-Sortais

C. Hohenkerk

M. Hosokawa

Y. Koyama

B. Luzum

Z. Malkin

R. Manchester

D. Matsakis

Y. Nastula

M. Ohishi

G. Petit

Ph. Tuckey

S. Zhang

P. Koppang



# Topics



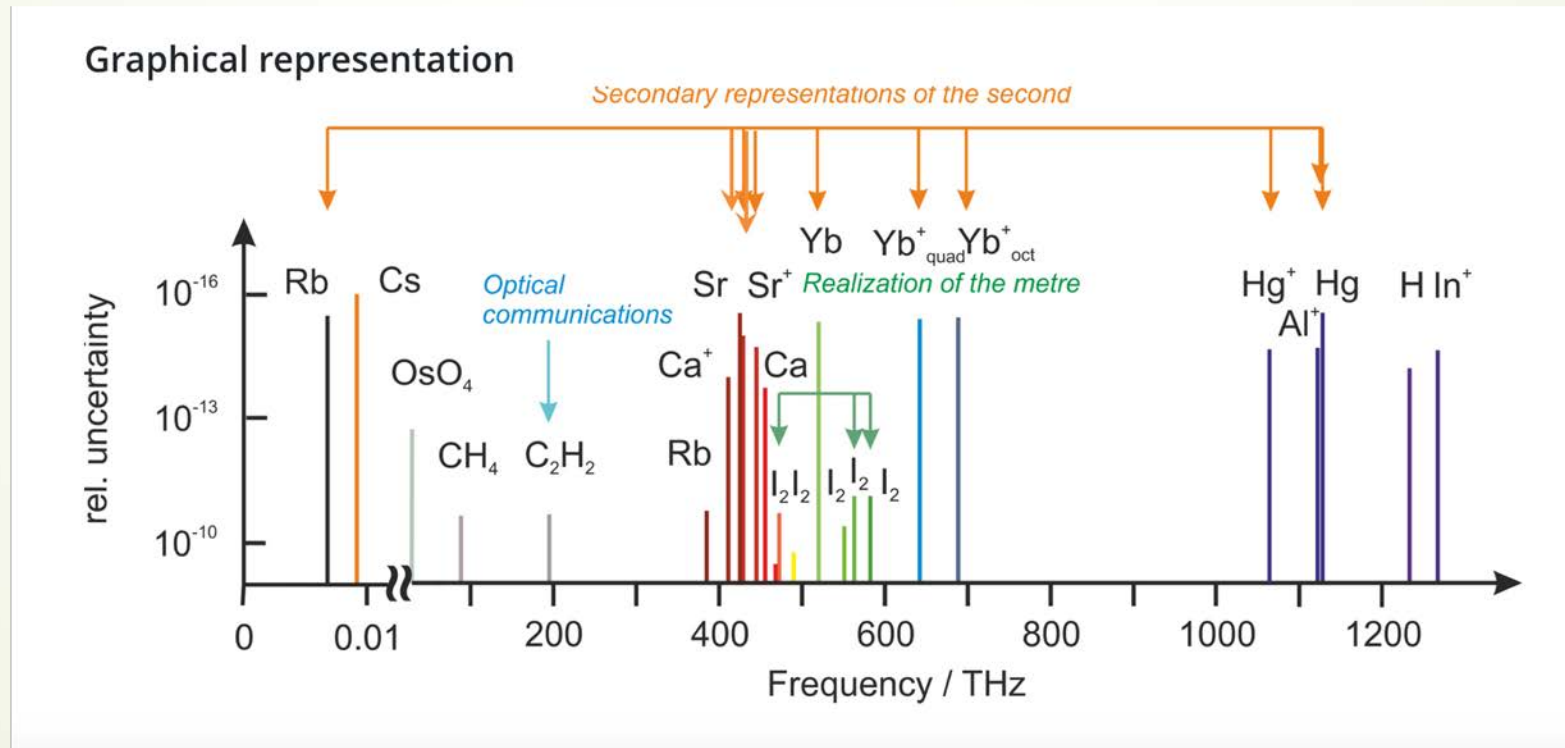
- ▶ Discussion on a possible change of the max. value of the offset UT1 – UTC;
  - ▶ International Telecommunication Union (ITU) – IAU is a Sector Member
  - ▶ General Conference on Weights and Measures (CGPM) – IAU invited
- ▶ **Action WG TMS**
  - ▶ **Contribution to the Report on UTC in preparation at the ITU-R for WRC 2023**
- ▶ Redefinition of the second of the International System of Units (SI)
  - ▶ Consultative Committee for Time and Frequency (CCTF)- IAU is a liason
  - ▶ Consultative Committee on Units (CCU) - IAU is a liason
  - ▶ General Conference on Weights and Measures (CGPM) – IAU invited
- ▶ No actions expected from WG TMS other than circulating information

# Discussion on a possible change of the max. value of the offset UT1 – UTC

- Discussion at ITU-R Working Party 7A since year 2000;
- Closure of discussion expected at World Radio Conference 2023;
- Report on UTC by the ITU-R WP 7A prepared considering the input of various organizations;
- Decision will be taken in agreement with the resolution of the CGPM 2022 on the increase of the tolerance of the value UT1 – UTC, with application about 2035;
- Impact on astronomy (software changes)
  - Adapt to new tolerance
  - Use direct information from the IERS to have access to UT1

# Redefinition of the SI second

- Future SI second will be realized with accuracy of parts in  $10^{18}$  in optical frequencies (two orders better than the present definition through caesium 133);
- Roadmap for the redefinition prepared by the CCTF, covering the steps necessary to a smooth transition.





Thanks for your attention!