TC Activities

Lic. Lucas Di LIllo

TC CHAIR

XXXXX

SISTEMA INTERAMERICANO DE METROLOGÍA

SIM as a legal entity

	Region	Country	NMI/Active member	DI/ Associate member
1	NORAMET	Canada	NRC	TCC
2		Mexico	CENAM	INEC, ININ
3		USA	NIST	NUWC-USRD
4	CARIMET	Antigua and Barbuda	ABBS	
5		Bahamas	BBSQ	
6		Barbados	BNSI	
7		Dominica	DBS	
8		Dominican Republic	INDOCAL	
9		Grenada	GDBS	
10		Guyana	GNBS	
11		Haiti	BHN	
12		Jamaica	BSI	
13		St. Lucia	SLBS	
14		St. Kitts and Nevis	SKNBS	
15		Suriname		
16		St. Vincent and Grenadines	SVGBS	
17		Trinidad and Tobago	TTBS	
18	CAMET	Belize	BBS	
19		Costa Rica	LCM	LAMETRO-ICE, ICE LMVA, RECOPE, LanammeUCR
20		El Salvador	CIM	
21		Guatemala	CENAME	
22		Honduras	CEHM	
23		Nicarágua	LANAMET	
24		Panamá	CENAMEP	
25	ANDIMET	Bolivia	IBMETRO	
26		Colombia	INM	
27		Ecuador	INEN	
28		Peru	INACAL	
29		Venezuela	SENCAMER	
30	SURAMET	Argentina	INTI	CNEA
31		Brazil	INMETRO	LNMRI/IRD, ON
32		Chile	INN	
33		Paraguay	INTN	
34		Uruguay	LATU	UTE

Currently SIM has 50 members:

34 active members,

13 associate members,

03 affiliate members

(COPANT, IAAC, CARICOM)

*Report new in earlier meeting

SIM Steering Council Members

Coordinates the implementation of all SIM activities

- Calls for nominations of Quality Systems Task Force (QSTF) Chair, Technical Committee Chair, and the Professional Development Chair
- Establishes working groups for specific tasks
- Approves the creation of new Technical Metrology Working Groups (MWGs)
- Approves the Chairs of the MWGs
- Applies and enforces General Assembly resolutions
- Approves an annual budget for SIM activities
- Approves an annual financial report to be submitted to & approved by the General Assembly
- Reviews and approves any agreement to be signed by SIM
- Designates members to represent SIM at conferences and meetings
- Recommends admission and exclusion of SIM Members to the General Assembly
- Reviews SIM´s proposals for submission to potential funding agencies

President	Javier Arias / CENAMEP AIP/ Panama jarias@cenamep.org.pa
Vice President	Claire Saundry / NIST / USA claire.caundry@nist.gov
Secretary	Claudia Santo secretariat.sim.org@gmail.com
TC Chair	Lucas Di Lillo / INTI / Argentina ldilillo@inti.gob.ar
QSTF Chair	Sally Bruce / NIST / USA sally.bruce@nist.gov
Professional Development Coordinator (PDC)	Rodrigo Felix / INMETRO / Brazil rpfelix@inmetro.gov.br
NORAMET Coordinator	James Kushmerick / NIST / USA james.kushmerick@nist.gov
CARIMET Coordinator	Erica Caruth / TTBS / Trinidad and Tobago Erica.Caruth@ttbs.org.tt
CAMET Coordinator	Fernando Andres / LCM / Costa Rica fandres@lcm.go.cr
ANDIMET Coordinator	Jose Dajes / INACAL / Peru jdajes@inacal.gob.pe
SURAMET Coordinator	Gregory Kyriazis / INMETRO / Brazil gakyriazis@inmetro.gov.br

SIM Technical Committees (Metrology Working Groups)

- TC Chair: **Lucas Di Lillo (INTI - ARG)**
- Deputy Chair: **Marina Gertsvolf (NRC - CAN)**

Ensuring efficient and effective support and technical review of calibration and measurement capabilities (CMCs) for publication in the Key Comparison Database in order to support calibration programs of SIM NMIs/DIs through inclusiveness, interlaboratory cooperation for metrological rigor, and capacity building

MWG 1: Electricity and Magnetism Chair: Felipe Hernández / CENAM / México fhernand@cenam.mx	**MWG 2: Photometry and Radiometry** Chair: Thiago Menegotto / INMETRO / Brazil tmenegotto@inmetro.gov.br Vice Chair: Juan Pablo Bábaro / INTI /Argentina jbabaro@inti.gob.ar
MWG 3: Thermometry Chair: Ciro Sanchez / INM / Colombia csanchez@inm.gov.co Vice Chair: Andrea Peruzzi / NRC / Canada andrea.peruzzi@nrc-cnrc.gc.ca	**MWG 4: Length** Chair: Karina Bastida /INTI / Argentina bastida@inti.gob.ar Vice Chair: Brian Eves / NRC / Canada brian.eves@nrc-cnrc.gc.ca
MWG 5: Time and Frequency Chair: Diego Luna / INTI / Argentina luna@inti.gob.ar Vice Chair: Liz Hernández Forero / INM / Colombia lhernandez@inm.gov.co	**MWG 6: Ionizing Radiation and Radioactivity** Chair: Raphael Galea / NRC / Canada raphael.galea@nrc-cnrc.gc.ca Vice Chair: Lizbeth Laureano-Pérez / NIST / USA lizbeth.laureano-perez@nist.gov
MWG 7: Mass & Related Quantities Chair: Aldo Quiroga / INACAL / Peru aquiroga@inacal@gob.pe	**MWG 8: Chemistry and Biology** Chair: Melina Perez / CENAM / Mexico meperez@cenam.mx Vice Chair: Brian Calderon / LACOMET / Costa Rica bcalderon@lcm.go.cr
MWG 9: Acoustics, Ultrasound and Vibration Chair: Akobuije Chijioke / NIST / USA akobuije.chijioke@nist.gov Vice Chair: Andres Esteban Perez Matzumoto eperez@cenam.mx	**MWG 10: Flow and Volume** Chair: Hernán Brenta / INTI / Argentina hbrenta@inti.gob.ar Vice Chair: Abed Morales / INACAL / Peru amorales@inacal.gob.pe
MWG 11: Legal Metrology Chair: Sandra Rodriguez srodriguez@lacomet.go.cr	**MWG 12: Quality System** Chair: Elizabeth Ferreira / LATU / Uruguay eferrei@latu.org.uy
MWG 13: Statistics and Uncertainty Chair: Antonio Possolo / NIST / USA antonio.possolo@nist.gov	**MWG 14: Metrology for Digital Transformation** Chair: Hugo Gasca Aragón / CENAM / México hgasca@cenam.mx Vice Chair: Diego Coppa / INTI / Argentina dcoppa@inti.gob.ar

Activities in SIM: CMCs

Technical Field	NMIs Involved	New CMCs published between 2023-01-01 and 2023-09-23
Thermometry	NRC, LACOMET	2
Mass and Related Quantities	INM, INEN, ENEAR, INACAL, NRC, INTI	5
Chemistry and Biology	CENAM, LATU, INACAL, INMETRO, NRC, INTI	21
Acoustics, Ultrasound and Vibration	INMETRO, NRC, CENAM	4

Activities in SIM: Comparisons (KCDB September 2023)

Technical Field	Planned/ Protocol complete	Measurements in Progress	Measurements Completed	Draft A	Draft B	Waiting for approval	Approved/ Approved for equivalence/ Approved for provisional equivalence
Electricity and Magnetism		1	1		1		1
Photometry and Radiometry	1	1					
Thermometry		1			1		
Length		2			1		2
Ionizing Radiation and Radioactivity		3		1	1		
Mass and Related Quantities	1						
Chemistry and Biology	1	5	1		1		
Acoustics, Ultrasound and Vibration	1	2					

Included in some of these numbers are a number of SIM comparisons that are older than 5 years (measurement period starting before 2017). SIM TC is working with MWG Chairs to update KCDB.

Projects and Activities

NIST GRANT:

Through this Project we fund Technical activities prioritized by our Technical Committee.

- Acquisition of equipment and materials for comparisons in MWG 6 (Ionizing Radiation and Radioactivity), MWG 8 (Chemistry and Biology) and MWG 9 (Acoustics, Ultrasound and Vibration)
- Attendance of 3 SIM members to APMP organized event related to water in Malaysia in March 2023
- Meeting of MWG 3 (Thermometry) in April 2023 together with ITS 10 Symposium in Los Angeles USA
- TC meeting during mid term SIM week in Bogota (24-25 May 2023)

Projects and Activities

- **SIM-NCSLI Project:**
  - The Early Carrier Metrologist Award (for meteorologists under 5 years) was successfully accomplished in 2023. 3 of the 4 winners attended the NCSLI 2023 Conference in Orlando (9-12 July 2023).

  - This project that started during the pandemic aims to have young metrologists write about scientific or industrial papers.

  - In 2022 we were able to select 4 papers of young metrologists among the 5 SIM Sub Regions and, together with other 6 metrologists (winners from 2020 & 2021 contests), send them to present their projects at the NCSLI annual Conference.

- **SIM- PTB – OAS Project:**
  - Develop new activities on the Quality Infrastructure to support the Circular Economy (QI4CE) on the areas of PLASTIC, AGRI FOOD & CONSTRUCTION MATERIALS.

Projects and Activities

IDB SIM Project

“Metrology for digital transformation to support health services in LAC”

1. **NEW DT SERVICES DEVELOPED BY NMIs (CABUREK methodology):**
   - Areas: DCC, automation and remote calibrations and digitalization of NMI´s services.
   - Last presential meeting: Perú October 21-25, 2022
   - The 4th virtual Workshop for the M4DT CABUREK project was held the week of April 17, 2023.
   - The last meeting will be a face to face on the week of the 20th November 2023.

Projects and Activities

IDB SIM Project

“Metrology for digital transformation to support health services in LAC”

2. RESEARCH PROJECTS:

- Development of a low-cost THB.
- Optical 3D measuring systems - Dimensional traceability for industrial and medical applications
- Metrological evaluation of lung ultrasound using a virtual vector machine for diagnosis of acute respiratory distress syndrome (ME-LUS-VVM-DARDS)“ project.
- Open platform for time and frequency measurements” is in the phase of buying the equipment for the project.

3. AWARENESS EVNTS:

- ANDIMET: INM Colombia : 23rd May 2023
- CAMET: CIM – El Salvador : 18 August 2023
- SURAMET: INTN – Paraguay: November 2023 (together with SIM GA)

Other Projects and Activities

- Signing of MoU with BIPM for the use of the e-learning platform
- Bolivia (IBMETRO) and Uruguay (UTE) started contributing to UTC and participating in CCTF-K001.UTC at the beginning of 2023
- SIM leading effort to the creation of an RMO-SIRTI to improve traceability and access to all NMI/DI
- Participation in the workshop “Measurement and training Building laboratory capabilities to assure Water Quality” in Asia Pacific economies of Malaysia. March 2023. IBMETRO, Bolivia, INMETRO, Brasil, INACAL, Perú, NRC, Canada
- Participation on the COPANT & IAAC G.A. to strengthen the Quality Infrastructure in America

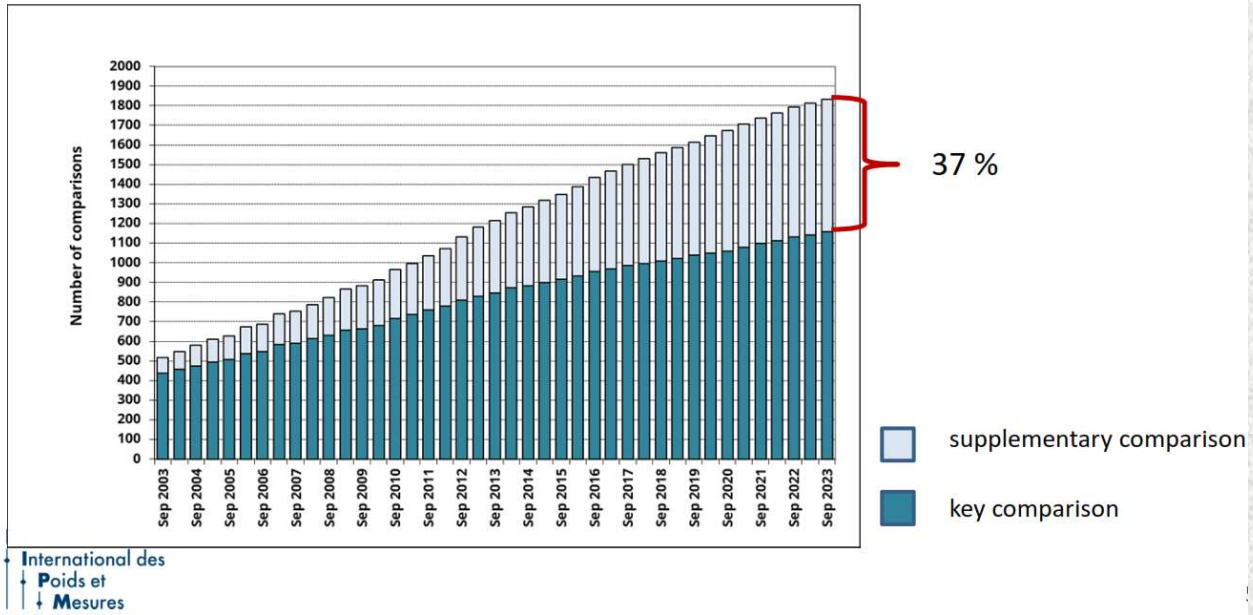
PROPOSALS AND RECOMMENDATIONS:

1. Modify the JCRB review process to allow multiple iterations for the revision of a CMC during the JCRB review as it is already done in the RMO review stage of a CMC.
2. Setting timelines for the review of Comparison reports in KCDB, similarly to the timelines for CMC reviews.
3. Add a guidance document to help the reviewer understand the general narrative of a CMC and clarify potential comments from the RMO review captured in the “CMC comments section”.

HIGHLIGHTS JCRB MEETING
September 2023, Costa Rica

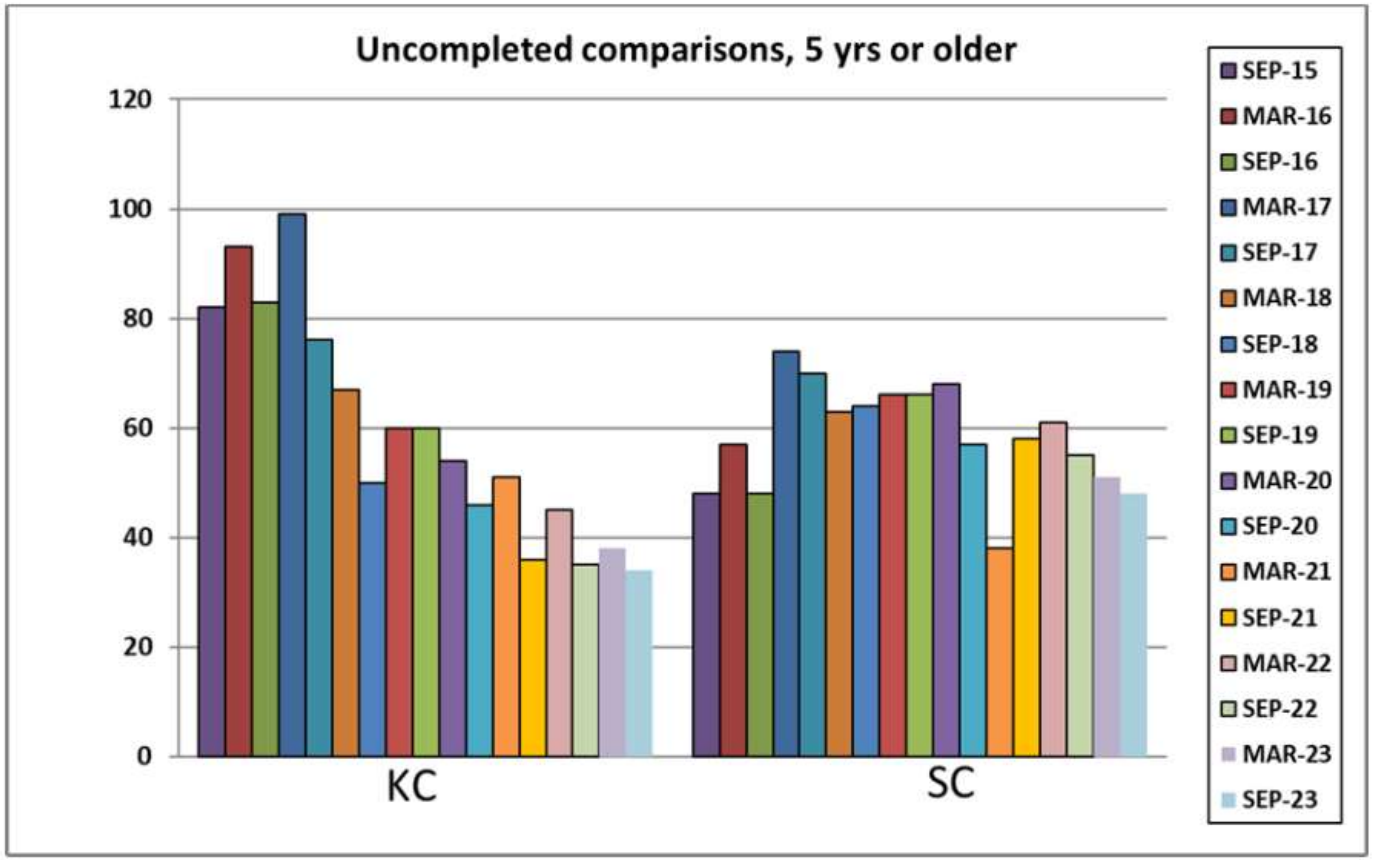

DE CAPACITACION
RODRIGO OROZCO SABORIO

Comparisons



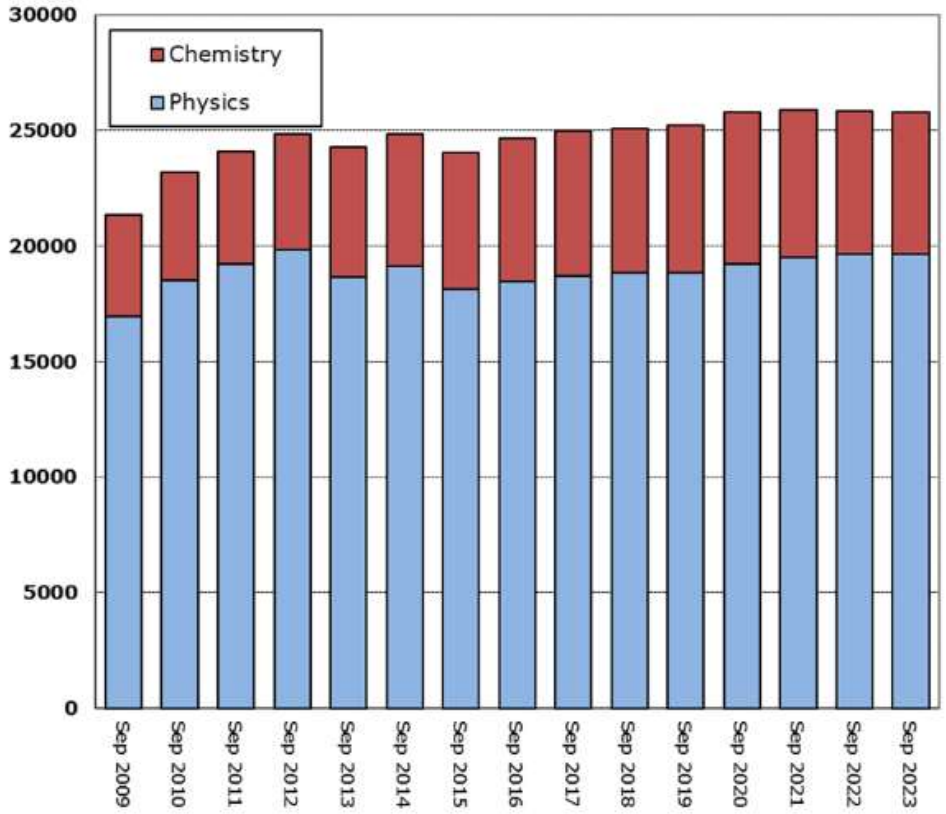
- Supplementary Comparisons (SCs) with respect to Key Comparisons (KCSs) remained stable at approximately 37 %. The number of incomplete KCs had decreased by nearly 50% while the number of SCs had remained unchanged.
- RMO KCs were experiencing delays, and the main reason was in preparation of reports.
- The CC based KCs were few and mainly were from EM and an action would be taken through CIPM to fast track the completion.
- The CMC review durations had reduced significantly compared to KCDB 1.0 both in the long and the short term. There were 5 CMCs and additional 21 from EURAMET that were greyed out and due for deletion.

Comparisons



Bureau International des Poids et Mesures

CMCs – status



- There are 25 809 CMCs published in the KCDB.
- Stable trend over the last 5 years

Bureau International des Poids et Mesures

47th meeting of the JCRB: Issues regarding the CMC review

Loss of rights …

- The KCDB statistics menu lists "*Loss of rights within the JCRB review for the last twelve months*"

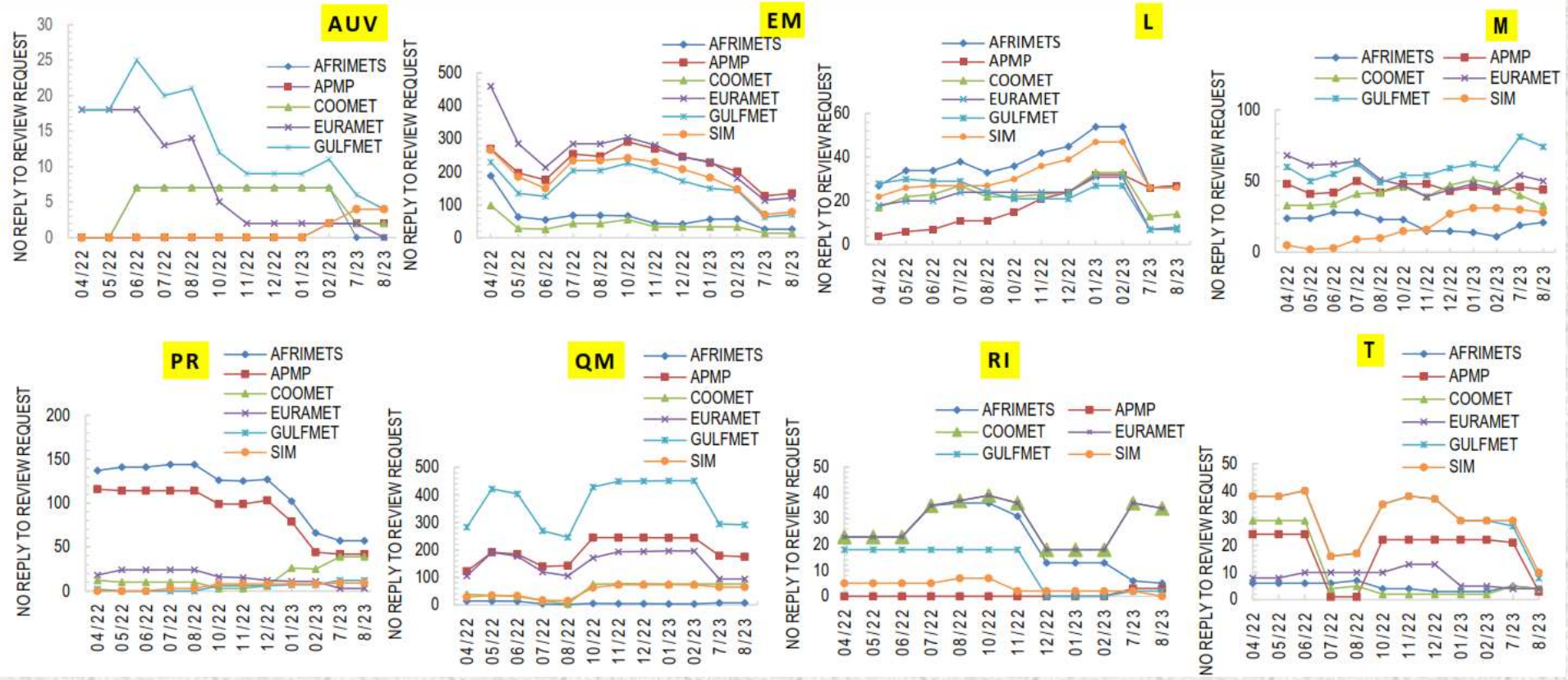
For all metrology areas

Data from 21 August 2023

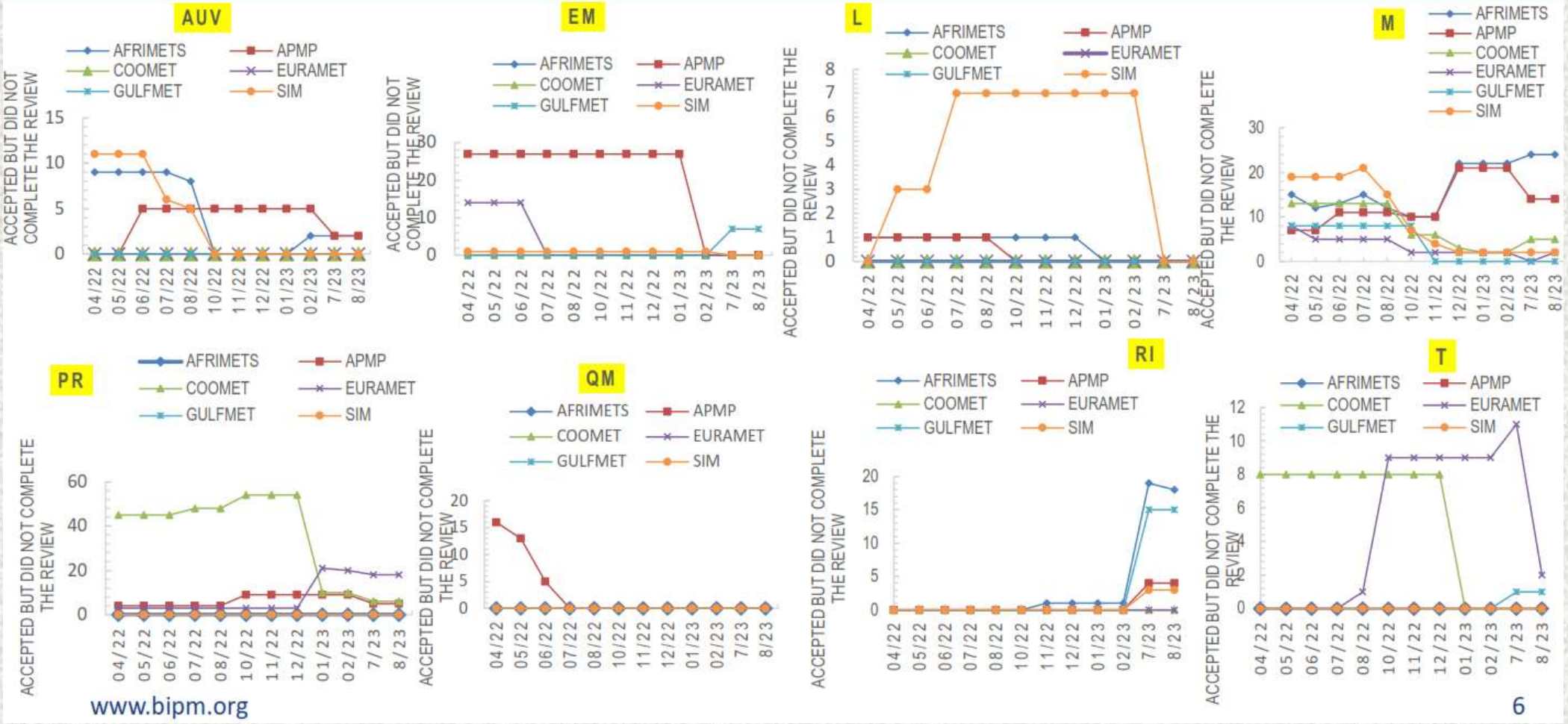
Reason for loss of rights	AFRIMETS	APMP	COOMET	EURAMET	GULFMET	SIM
No reply to review request	148	432	217	316	469	221
Accepted but did not complete the review	44	26	11	22	24	5
Reviewed but did not vote when requested	0	0	0	0	0	0
Total loss of rights	**192**	**458**	**228**	**338**	**493**	**226**

Bureau International des Poids et Mesures

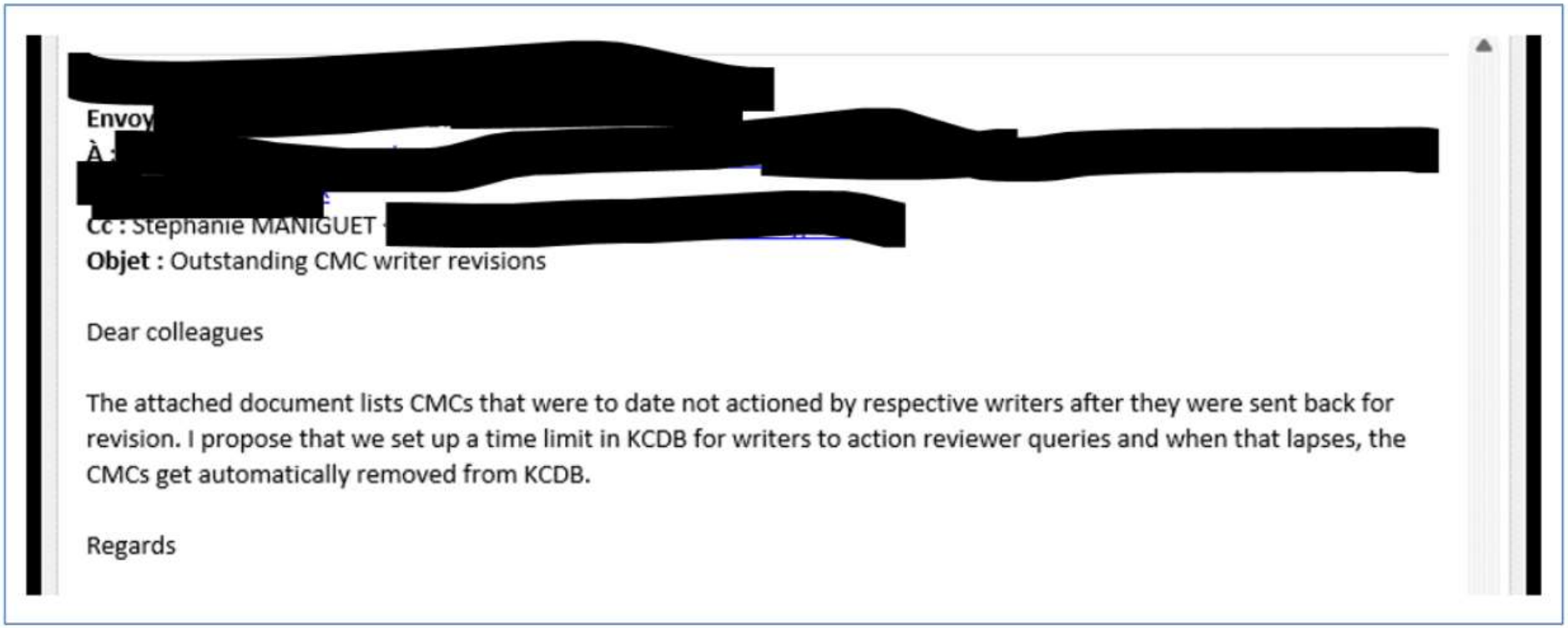
No reply to review request



Accepted but did not complete the review



Correspondence from an RMO



[redacted]

Cc : Stephanie MANIGUET [redacted]

Objet : Outstanding CMC writer revisions

Dear colleagues

The attached document lists CMCs that were to date not actioned by respective writers after they were sent back for revision. I propose that we set up a time limit in KCDB for writers to action reviewer queries and when that lapses, the CMCs get automatically removed from KCDB.

Regards

Bureau International des Poids et Mesures


CMC identifiers

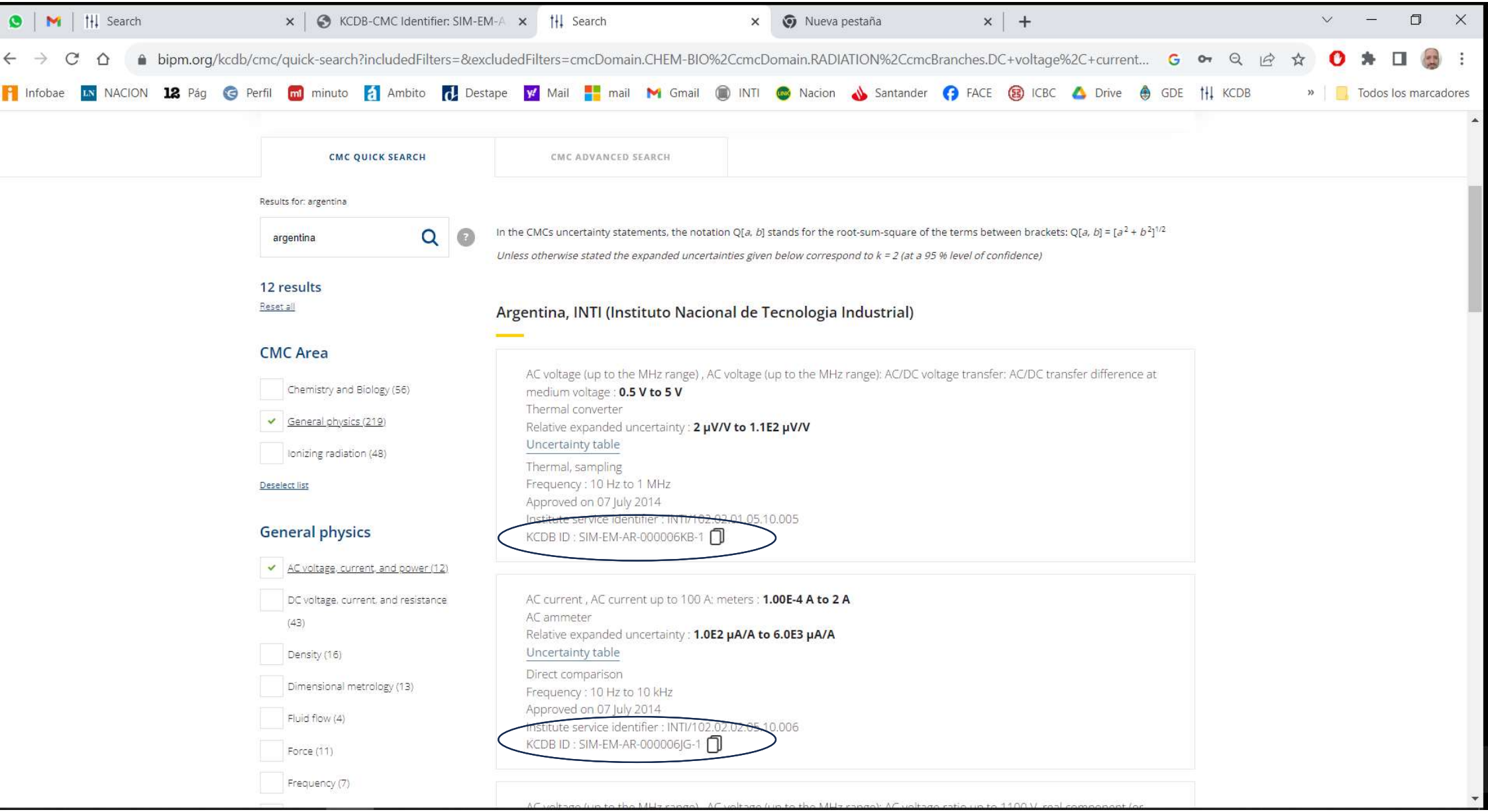
JCRB Recommendation 46/1 (2023)

Recommendation JCRB/46-1 (2023)

Noting the availability in the KCDB of a unique and persistent identifier for each CMC (and each version of a CMC), the JCRB recommends use of these CMC identifiers by the participating NMIs/DIs (for example in their quality documentation) and asks the BIPM Headquarters to make available appropriate training material to encourage this.

1. CMC identifiers displayed in the KCDB
2. New digital service launched to display the data corresponding to a particular CMC identifier
3. Quick Start document published on the website
4. Latest news: Uptake by NMIs

Using permanent CMC identifiers - KCDB Quick Start


Search
KCDB-CMC Identifier: SIM-EM-A
Search
Nueva pestaña
bipm.org/kcdb/cmc/quick-search?includedFilters=&excludedFilters=cmcDomain.CHEM-BIO%2CcmcDomain.RADIATION%2CcmcBranches.DC+voltage%2C+current...
Infobae
NACION
Pág
Perfil
minuto
Ambito
Destape
Mail
mail
Gmail
INTI
Nacion
Santander
FACE
ICBC
Drive
GDE
KCDB
Todos los marcadores
CMC QUICK SEARCH
CMC ADVANCED SEARCH
Results for: argentina
argentina
12 results
Reset all
CMC Area
Chemistry and Biology (56)
General physics (219)
Ionizing radiation (48)
Deselect list
General physics
AC voltage, current, and power (12)
DC voltage, current, and resistance (43)
Density (16)
Dimensional metrology (13)
Fluid flow (4)
Force (11)
Frequency (7)
In the CMCs uncertainty statements, the notation Q[a, b] stands for the root-sum-square of the terms between brackets: Q[a, b] = [a2 + b2]1/2
Unless otherwise stated the expanded uncertainties given below correspond to k = 2 (at a 95 % level of confidence)
Argentina, INTI (Instituto Nacional de Tecnologia Industrial)
AC voltage (up to the MHz range) , AC voltage (up to the MHz range): AC/DC voltage transfer: AC/DC transfer difference at medium voltage : 0.5 V to 5 V
Thermal converter
Relative expanded uncertainty : 2 µV/V to 1.1E2 µV/V
Uncertainty table
Thermal, sampling
Frequency : 10 Hz to 1 MHz
Approved on 07 July 2014
Institute service identifier : INTI/102.02.01.05.10.005
KCDB ID : SIM-EM-AR-000006KB-1
AC current , AC current up to 100 A: meters : 1.00E-4 A to 2 A
AC ammeter
Relative expanded uncertainty : 1.0E2 µA/A to 6.0E3 µA/A
Uncertainty table
Direct comparison
Frequency : 10 Hz to 10 kHz
Approved on 07 July 2014
Institute service identifier : INTI/102.02.02.05.10.006
KCDB ID : SIM-EM-AR-000006JG-1

ACTIONS

Action JCRB/47-1 The JCRB Executive Secretary and the KCDB Office will review and improve the guidance materials relating to the use of the column “CMC comments” for example by providing “pop-ups” on the KCDB platform.

Action JCRB/47-2 The JCRB noted that there are sometimes multiple iterations of comments between reviewers and writers during the JCRB review. The JCRB encourages:

the RMOs to ensure that the intra-RMO review is always carried out thoroughly so that points of detail are resolved before the JCRB review,

the CC WGs on the CIPM MRA and RMO TC/WGs to consider providing a mechanism to exchange comments during the JCRB review in a way that is transparent, and the sharing of best practice between CC WGs on the CIPM MRA for efficient JCRB review.

ACTIONS

Action JCRB/47-3 The JCRB recalled that each RMO can approve each CMC before it is published and has the opportunity to indicate whether it will review a CMC or not. The CMC review process is tied to the deadline of the latest review date indicated by an RMO. The JCRB requests the RMOs to respond promptly even if they do not plan to review, and to remind Reviewers that agreeing to carry out a review of a CMC but not completing the review causes delays to the CMC review process.

Action JCRB/47-4 The JCRB requests the RMOs to encourage all member NMIs and DIs to register with the Research Organization Registry (ROR) (ror.org) to facilitate the BIPM in using the RORs as digital references for them.

Resolution JCRB/47-1 The JCRB recalled its previous decision **(JCRB/32-2 of 2014)** that a second JCRB meeting should only be held in any year when it is considered necessary. The 48th meeting will be held in week 38 (beginning 16th September) of 2024 at the BIPM.

QUESTIONS?

https://sim-metrologia.org/about-us/