

IEEE P4006 Working Group
 Meeting Minutes
 16 MAY 2022
 WG Chair: Roger Oliva
 WG Secretary: Ryo Natsuaki

1. Call to Order:
 - a. *The chair called to order at 14:05 (CET) and welcomes everybody*
2. Roll Call and Affiliation
 - a. *The chair performed a roll call on participants affiliation. All participants provided their affiliation.*
 - b. *There was a total of 16 participants in attendance.*

Meeting participants:

Roger Oliva (Zenithal Blue technologies / ESA / IEEE)	Paolo de Matthaëis (IEEE GRSS)
Ryo Natsuaki (The University of Tokyo)	Tobias Bollian (DLR)
Jia Su (Northwestern Polytechnical University)	Raúl Díez-García (ESA)
Hui Lu (Tsinghua University)	Dazhen Gu (National Institute of Standards and Technology)
Adriano Camps (Universitat Politecnica de Catalunya)	Hyuk Park (Universitat Politecnica de Catalunya)
Adrian Perez-Portero (Universitat Politecnica de Catalunya)	Siri Jhoda Khalsa (retired)
Mingliang Tao (Northwestern Polytechnical University)	Kaushal Buch (GMRT, NCRA-TIFR)
Yan Huang (Southeast University)	Deepak Kumar (Amity University Uttar Pradesh)

3. Approval of agenda
 - a. *The WG Chair introduced the agenda and called for motion to approve it.*
 - i. *Siri Jodha made the motion to approve the agenda as presented.*
 - ii. *Deepak Kumar seconded the motion.*
 - iii. *The motion passed without opposition.*
4. Approval of previous meeting minutes

- a. *The WG secretary presented the minutes of the previous meeting.*
 - b. *The WG Chair called for motion to approve the previous meeting minutes as presented.*
 - i. *Raúl Díez-García made the motion to approve the agenda.*
 - ii. *Deepak Kumar seconded the motion.*
 - iii. *The motion passed without opposition.*
5. IEEE Patent Policy
- a. *WG Chair presented the IEEE slides and made a call for potentially essential patents; no one raised concerns for consideration.*
 - b. *WG Chair presented the copyright policy as well. There was no question or comment.*
6. Technical Discussion
- a. Raul Díez-García Passive SG chair reported for the status and discussion in both active and passive SGs.
 - i. The report proposes a 4-step flowchart for detecting and cataloguing the RFI in satellite borne remote sensing.
 - ii. The first step quantifies the existence of RFI for every acquisition. There, the standard may provide, for example, detection techniques, false alarm rate requirement etc. Discussions are carried especially for whether the standard defines which RFI detection techniques is to be applied.
 - iii. The second step is namely a sensor-based map which is a global map of RFI contamination for each sensor. Current discussion is on how often to collect acquisition and geolocation the RFI. Time-scale of RFI source and sensors should match e. g., operation frequency/season of RFI source and observation schedule. Tentative conclusion is to make RFI information property which contains geolocation, frequency, temporal power, polarization etc.
 - iv. The third step is to merge sensor-based maps into a band-based map, which lists the geolocation of RFI in global scale. Discussion exists in how to merge those sensor-based map because the coverage of the sensor varies. Discussion continues also in how to make conversion between sensor-based and global map.
 - v. The last step is to output the Global-reference-frame contamination map. Details should be discussed further but various products can be defined for characterizing the RFI.
 - b. Discussions were held among the Raul's report.
 - i. Will P4006 specify what should be in a report of RFI or the process to generate such a report? I.e., who will be the users of the standard - groups doing RFI detection or users of microwave data that want to interpret information about RFI in the data they want to use? (Siri Jodha)
The users will need have to access to raw observation data so it would be groups doing RFI detection (Tobias Bollian)
Also, mission management team and other organizations interested in knowing the RFI

status (Roger Oliva)

Some missions have already done up to Step 2. (Raul Diez)

- ii. Paolo expected the standards for assessing the contamination/environment of RFI in a more quality-based information, while the presented flowchart focuses on how to detect RFI and specify the source. Criticalness of the contamination ratio depends on the usage (Paolo de Matthaéis)

A set of use cases might help guide development of the standard such as instrument team, sophisticated user, decision maker/enforcer. (Siri Jodha)

I think the standard should be agnostic of the application, as requirements for the same application may also change over time. I think we must remain on the quantification of the magnitude of the RFI and provide as many parameters as we can and leave the evaluation of the impact to the users. (Adriano Camps)

I suggested use cases to inform the standard, not to specify parameters for each use case. I.e., will the standard supply what is needed by each use case? (Siri Jodha)

Or if it should include RFI that are detected but that are complain with the regulations (Paolo de Matthaéis)

- iii. In Step4, I can see different users using outputs from different steps. E.g., some may go for output from Step 1, while decision makers would use end outputs. (Siri Johda)
- iv. After these discussions, participant voted for every step to assess whether it should be included in a part of the standard. All steps are agreed to be included.

7. Unfinished Business/Action Item Review

- a. None

8. New Business

- a. Paolo proposed to bring and inform the discussions above to SFCG meeting. The possibility is to input an information document or a discussion document. The information document is just to inform them about our discussions while the discussion document requires some actions for the SFCG. This time, submitting an information document is enough but someone have to make a document two weeks before the meeting i.e., end of June / early July. Presentation shall be done by Paolo or Tobias. The proposal was accepted.

9. Next meeting--date and location

- a. *The WG chair suggested to hold the next virtual meeting in June 2022 or later depending on the progress of the SG work.*

10. Adjournment

- a. *The WG Chair called for a motion to end the meeting.*
- b. *The motion passed without opposition. The WG Chair adjourned the meeting at 15:16 (CET).*
- c. *Minutes submitted by: Ryo Natsuaki*