

# **Recommendations from CCRI-DT-TG on BIPM Web Services for Ionizing Radiation Metrology (August 2024)**

The CCRI DT-TG would like to present the following recommendations to the CCRI regarding the development of BIPM digital services in the field of ionizing radiation metrology.

## **Digitalization of Service Categories**

The digitalization of the service categories to provide persistent identifiers (PIDs) for Ionizing Radiation Calibration and Measurement Capabilities (IR CMCs) posed significant challenges due to the unique structure required to represent these services. After several reviews by CCRI-DT-TG experts, Dr Janet Miles and Dr Jean-Laurent Hippolyte (seconded from NPL) successfully released this critical product. The CCRI-DT-TG acknowledges and appreciates BIPM's efforts in this regard, as it is a prerequisite for enabling efficient interaction within the SI digital framework.

## **Improved referencing of DDEP Recommended Nuclear Decay Data**

The development of an API for FAIR (Findable, Accessible, Interoperable, Reusable) access to DDEP (Decay Data Evaluation Project) recommended nuclear decay data for metrology activities is currently not feasible for BIPM and LNHB due to the consequent developments required. However, productive discussions between Dr Xavier Mougeot (LNE/LNHB, coordinator of DDEP) and Dr Janet Miles, Chief Editor of Metrologia, have led to a viable publication strategy. This approach, which satisfies both BIPM and DDEP, involves assigning DOIs to Metrologia technical supplements for annually re-evaluated nuclides. The CCRI-DT-TG highly values this enhanced digital traceability of decay data used in IR metrology and recommends prioritizing these publications. Furthermore, this new citation method for DDEP decay data should be communicated to experts in the field, particularly during the next biannual meeting of CCRI(II)/KCWG(II), and highlighted on the BIPM or/and CCRI news website. As a start, the 2023 DDEP evaluations are expected to appear in Metrologia technical supplements by the end of 2024.

## **Introduction of the Radionuclide Service**

During a meeting held on 13<sup>th</sup> May 2024, Dr Janet Miles introduced the Radionuclide Service to some members of the CCRI-DT-TG, including experts from section II (Dr Ryan Fitzgerald, Dr Xavier Mougeot, Dr Haoran Liu). This initiative is noteworthy as it centralizes links to related metrological data on radionuclides, such as key comparisons and CMCs. A potential development could be an interface with the Measurement Methods Matrix (MMM) to help CMC reviewers. The CCRI-DT-TG recommends introducing this project to CCRI(II)/KCWG(II) during the next biannual meeting to draw the orientations of this project.

## **Development of a Software Comparison Platform for Radionuclide Metrology**

The Ionizing Radiation Department of the BIPM investigates ways to compare the software used to process list mode data from digitizers and for activity estimation. During a secondment at BIPM in May and June 2024, Dr. Eric Macedo (IFBA) drafted a prototype of a BIPM interface using Microsoft Power App. This development will continue with the participation of colleagues from NIM (Dr Haoran Liu and Dr Zihao Fan) at BIPM in September and October. This concept will be presented to the CCRI(II)/KCWG(II) during the next biannual meeting and discussed within the CCRI-DT-TG to see how this approach could also interest section I and III activities.