Report on the outcomes of a Short-Term Scientific Mission[1]

Action number: CA20129

Grantee name: Małgorzata Śmiałek-Telega

Details of the STSM

Title: Development of photoelectron spectrometer for VOCs investigation

Start and end date: 24/07/2023 to 31/07/2023

Description of the work carried out during the STSM

Description of the activities carried out during the STSM. Any deviations from the initial working plan shall also be described in this section.

Over the past six years, the laboratory has undergone significant changes, including multiple lab relocations and room refurbishments, which took place during my absence. As a result, various components of the apparatus have become dislocated throughout the lab area.

During a recent visit to the laboratory, efforts were made to locate the scattered main parts of the equipment and other miscellaneous components such as cables, controllers, vacuum gauges, gas lines, and part of the pumping station (Figure 1). It was a challenging task, but eventually, the internal part, consisting of the electron monochromator and interaction region, was successfully found (Figure 2).

Figure 1 Electronics rack (left) and the experimental chamber (right) for CARPES setup.

[1] This report is submitted by the grantee to the Action MC for approval and for claiming payment of the awarded grant. The Grant Awarding Coordinator coordinates the evaluation of this report on behalf of the Action MC and instructs the GH for payment of the Grant.

During the visit c.a. 90% of the apparatus were located and secured. However, despite the progress made in locating some parts, there are still missing components that are crucial for the spectrometer to function at its full capacity. A detailed list of these missing parts has been compiled to ensure their procurement and integration into the apparatus.

To address these challenges and make the spectrometer fully operational, a comprehensive plan for preparation and shipment of the required components has been drafted. The plan has been agreed upon, but it necessitates another visit to the laboratory to execute the necessary actions.

Figure 2 Hemispherical electron monochromator attached to a collision region

Description of the STSM main achievements and planned follow-up activities

Description and assessment of whether the STSM achieved its planned goals and expected outcomes, including specific contribution to Action objective and deliverables, or publications resulting from the STSM. Agreed plans for future follow-up collaborations shall also be described in this section.

(max. 500 words)

In conclusion, the recent visit to the laboratory allowed for the successful identification and retrieval of various components of the apparatus. Nevertheless, there are still essential parts missing, and a well-defined plan has been established to address this issue. The journey to restore the spectrometer to its full functionality requires additional efforts and another visit to the laboratory. With diligent execution of the plan, the spectrometer will be back in action, facilitating further research and experiments at the institution.

During my visit, in addition to addressing the various aspects of our scientific collaboration, we dedicated time to exploring potential funding mechanisms that can play a pivotal role in facilitating and sustaining future collaborative endeavors. We recognized the significance of financial support in nurturing successful research partnerships and promoting the advancement of our shared scientific goals. By considering diverse funding options, ranging from grants and sponsorships to public-private partnerships, we sought to identify the most suitable and sustainable approach that aligns with our collaborative vision. Through these discussions, we aimed to lay a strong foundation for long-term cooperation, fostering an environment of innovation and progress that will empower us to address complex scientific challenges together