

Solar Facilities for the European Research Area-Second Phase SFERA-II

Short description

The purpose of this project is to integrate, coordinate and further focus scientific collaboration among the leading European research institutions in solar concentrating systems which are partners of this project and offer European research and industry access to the best-qualified research and test infrastructures.

Website: <http://sfera2.sollab.eu/>

Few Facts:

- SFERA-II is a project funded under the FP7-INFRASTRUCTURES-2012-1 call for integrating activities
- Duration: 1/01/2014 - 31/12/2017
- Budget: EUR 8.560.764,37
- Coordinator: CIEMAT, Almeria, Spain
- Contact: Isabel Oller - access-sfera@sollab.eu
- N° of partners: 12

Dr. Mindaugas Milieška

I am working in Lithuanian energy institute Plasma processing laboratory as a Senior research associate. The main research area of the laboratory is the development and research of DC plasma sources for wide range of applications. One of the applications which I am focusing is the plasma spraying technique which provides the opportunity to form and modify the constructional material surfaces. The other research area is the interaction between the plasma jets and substances in various plasma-technological processes.

Can you explain your main research interest and briefly describe the research project that you have submitted to SFERA-II?

As we are focusing on the formation of functional coatings the heat impact assessment of the formed coatings working in hostile environments is crucial. Especially, if it can be done in heating-cooling intervals. So I brought few samples of prepared coatings and tested their response to the heat treatment in steady heating and heating-cooling intervals. Before and after this research project we made some material analysis, testing and evaluation and tweaked our future research plans accordingly.

The second type of experiment I brought was the graphite waste, which was used as a moderator in NPP reactor, as the the inner part is 'clean' and may further be reused. The thermal resistance of this type of graphite is one of the main merits in further his employment. So, during the research project we measured the mass losses of the graphite after heating it in 600 °C – 2000 °C temperature ranges.

Please select the infrastructure you requested access to: CIEMAT-PSA. Why did you choose this particular infrastructure? Explain how crucial it is for your project?

The concentrated sun light provides the opportunity to test the heat resistance of the materials. One of the main advantages of this infrastructure which is important for us is that it doesn't pollute the samples with other materials and is environmentally friendly. The ability to control the temperature of obtained concentrated sun light in wide ranges is crucial to our research.

What is the meaning of your research – purely basic or applied?



Testimonies of users of transnational and virtual access to research (e-) infrastructures

Our research is applied because we are forming the functional coatings using plasma technology and the reuse of graphite is also practical.

What is your opinion on the visit? Can you tell us also a bit on the practical details (submission process, arrangements for your visit,...)?

The visit was very helpful as we obtained some valuable information about our samples. The submission process was very clear and fast. The staff at the PSA was very friendly, professional and appointed the whole week for our research. They arranged my trip and accommodation. So, the visit was real pleasure.

The testimonies of users of transnational and virtual access are available on the RICH 2020 website at <http://www.rich2020.eu/rich-success-stories>