



## **4<sup>th</sup> International Conference on Environmental Radioactivity: Radionuclides as Tracers of Environmental Processes**

**29 May – 2 June 2017 Vilnius, Lithuania**

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## Welcome to the ENVIRA2017 Conference

**Dear Colleagues,**

We welcome you to the ENVIRA2017, the International Conference on Environmental Radioactivity organized by the Centre for Physical Sciences and Technology (Institute of Physics) in Vilnius, Lithuania from Monday, May 29 to Friday, June 2, 2017. The venue and the Conference topics of the ENVIRA2017 which will be focusing on “Radionuclides as Tracers of Environmental Processes” were agreed on by the International Advisory Committee and confirmed at the closing session of the ENVIRA2015 conference held in Thessaloniki (Greece) in September 2015.

Following traditions of previous ENVIRA conferences, the ENVIRA2017 will consist of invited talks on relevant environmental radioactivity and radioanalytical topics, given by prominent representatives of the field, as well as by oral and poster contributions on various environmental radioactivity aspects. The conference will highlight the new scientific knowledge on the application of natural and anthropogenic radionuclides and isotopes in tracer studies in the terrestrial (atmosphere, hydrosphere, biosphere, pedosphere, etc.) and marine (seawater, marine biota, sediments, etc.) environments. The latest technological innovations in low-level radioactivity detection techniques including radiometric and low-energy and high-energy mass spectrometry methods, in situ measuring techniques, continuous monitoring systems, and other recent analytical developments will be included in the conference program as well. Radioecological topics, protection of the total environment against radiation including Chernobyl and Fukushima impacts on the environment, waste management and remediation actions on contaminated territories will be also covered.

Additionally, conference attendees and accompanying guests are invited to participate in our events: welcome reception, gala dinner, trip to Trakai.

If you have questions during the event, ENVIRA2017 committee staff will be available to assist you or you can contact [envira2017@ftmc.lt](mailto:envira2017@ftmc.lt) and visit <http://envira2017.ftmc.lt/> at any time.

Thank you for attending ENVIRA2017 and please enjoy the conference!

## Beryllium-7 correlations in total deposition (dry and wet) measured in Serbia and Slovenia

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Beryllium-7 is a natural radionuclide whose specific activity at the surface strongly depends on transport history from the upper atmosphere where this isotope is produced. Since the major removal mechanism of beryllium-7 from the atmosphere is wet deposition, local meteorological factors also play an important role in its abundance at the surface.

In this analysis we present the beryllium-7 correlations in total deposition (dry and wet) measured in three locations: Belgrade, the capital of Serbia; Ljubljana, the capital of Slovenia; and Krško, a town in eastern Slovenia where a nuclear power plants located. Air distance between Belgrade and Ljubljana is about 490 km, while Krško lies roughly between them, and is less than 80 km away from Ljubljana. The data in our analysis cover the 1995-2015 period. The beryllium-7 specific activities were measured by standard gamma spectrometry at the Vinča Institute and Jožef Stefan Institute.

A comparison of the three beryllium-7 records in total deposition shows some differences between the measurement sites. For example, the maximum beryllium-7 concentrations in Belgrade are noted in June, while in Ljubljana and Krško, the maximum is observed in August. However, in both cases, the minimum beryllium-7 concentrations occur five months after the maximum, i.e. in November in Vinča, and in February in Ljubljana and Krško. Further, the highest Pearson's linear correlation coefficient ( $r$ ) is obtained for the Ljubljana-Krško records ( $r=0.68$ ). This strong linear correlation decreases down to a weak correlation of  $r=0.35$  and  $r=0.30$  for the Belgrade-Ljubljana and Belgrade-Krško records, respectively.

**Keywords:** *beryllium-7, total deposition, linear correlation*