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**AIR QUALITY IN SPECIAL ENVIRONMENTS - CO₂ IN A TOURIST KARST CAVE WITH A
MILLION VISITORS – POSTOJNA KARST CAVE**

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Abstract: The quality of air in the outer atmosphere is subject to the European Directive for a number of pollutants. Furthermore, the air parameters are under supervision in the indoor working areas. However, there are also environments which are neither one nor the other, but still host numerous visitors.

Our article will shed some light on the issue of air quality in a karst cave visited by huge numbers of tourists.

Karst caves are one of the karst phenomena. Due to their awe-inspiring beauty they are extremely interesting for tourists. In Slovenia, the country of original karst, there are numerous and extremely large caves. The Škocjan Caves are entered in the UNESCO list of world heritage, and Postojna Cave is our extremely large (14-kilometre long) and the most frequently visited cave; we could say it is almost besieged. Tourists are transported in the heart of the cave by a special train, and afterwards a footpath is maintained through the halls and passages. There are meteorological stations set up along the entire trail and in the control side tunnels, which measure the natural conditions and possible physical impacts of tourism on the cave, and they also measure the concentrations of CO₂.

The huge number of tourists in partially ventilated underground halls causes a noticeable increase in the CO₂ level due to the exhaled air.

We present an analysis of CO₂ concentrations along the footpath and in other areas. The analysis shows how large the differences are between the days with large numbers of visitors and after the season. We present the connection with the external atmosphere – natural and forced ventilation.

We wish to transfer the experience from measurements, modelling and the control of air quality in the external atmosphere to special environments, such as large karst caves visited by huge numbers of tourists and any other environments which have not received any attention so far, but are important from the point of view of extensive tourism.

Key words: *indoor air quality, karst cave, carbon dioxide, tourism environmental management*