

## **Abstract**

Retention curve describes the ability of an unsaturated porous medium to retain water at different suction pressures. It thus plays an important role in providing information on the movement and occurrence of water in the vadose zone. While the determination of the retention curve for soil is common, it is far less common in the case of rocks. The aim of this bachelor thesis is to determine the retention curve of sandstone from the Jestrebicka jehla in Kokorinsko using the tensiometer – weight method. A partial aim is to compare this curve with two previous measurements on the same sandstone: i) measurements by student A. Studencová, using the tensiometer – weight method, and ii) measurements made by the laboratory of Research Institute for Soil and Water Conservation, according to a slightly modified method of CSN ISO 11274. There were notable differences between the retention curves. The retention curve according to the CSN for a given suction pressure showed lower moisture values, which is probably due to insufficient saturation of the sample and air entrapment in the rock pores. Relatively large differences in the retention curve between two independent tensiometer – weight method measurements were also found, which are probably due to insufficient contact between the tensiometer and the porous media of the studied sandstone. From the available data and literature, it is not possible to clearly decide which of the three retention curves (obtained independently on the same sandstone from the Jestrebicka jehla) is the most accurate. This work highlights the need to account for possible errors when using a tensiometer to measure the suction pressure of a sandstone environment.