

## Annual lamination in a recent speleothem from Zoolithencave (Bavaria, Germany)

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A stalagmite from Zoolithencave (Bavaria, Germany) was analysed for visible, elemental and UV-luminescent lamination. The visible lamination was determined on thin sections, and lamina thickness was measured with the software *analySIS pro* (Olympus). The elemental concentration was measured by LA-ICPMS (Element 2, ThermoFinnigan, 213 nm Nd:YAG Laser, NewWave) and UV Spectral-Luminescence Scanning (UV-SLS) of the stalagmite. Its age is constrained by <sup>14</sup>C-dating of a charcoal piece deposited below the stalagmite and detection of the radiocarbon bomb peak. The dating results show that this stalagmite grew in approximately during the last 200 years, and the age model was improved by lamina counting. The preliminary results show that all three types of annual lamination (visible, elemental and UV-SLS) occur in this stalagmite. The concentration of Mg, Sr and Ba reflects the annual variability with higher values in the brighter than in the dark layers. The concentration of P can be used as an indicator for soil activity, which increases in the darker layers. These darker layers are induced by humid acids from the soil above the cave. Therefore, P was compared with the G/B ratio of the UV-SLS, which is as well an indicator for humic acids originating from the soil.