

ABSTRACT  
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**Luminescent Growth Banding and Stable Isotope Stratigraphy in  
a Stalagmite from Northern Norway: preliminary results for the  
period AD 1734 to 955 BC**

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Luminescent organic matter in a stalagmite from northern Norway is found to display characteristic patterns of annual and sub-annual bands for the period AD 1734 to 955 BC. The stable isotope stratigraphy, with a temporal resolution of 10 to 30 years/mm, shows large-scale fluctuations with time similar to the variation in annual band width. Preliminary results suggest that, in one annual layer, the main luminescent lamina is deposited in the spring in relation to flushing of organic matter from the soil zone during snowmelt, and that minor laminae (of lower intensity and thickness) are formed during the autumn. Moreover, this indicates a strong relation between summer soil zone conditions and stalagmite growth rate, thus information from studies of annual bands are expected to improve the understanding of stable isotopes in high latitude speleothems.