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Isotopenphysik

E I N L A D U N G

zum

V E R A - S E M I N A R

von

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What can annual ^{14}C variations tell us about extreme solar events?

Rapid excursions in the radiocarbon record caused by a sudden increase in incoming cosmic radiations found during the Holocene have generated widespread interest. These have been reproduced in many records, beginning with the first study by Miyake et al. (2012), who reported in the 774AD event. Since that time, the 774-775AD is confirmed at multiple locations beginning with Jull et al. (2014), as summarized by Büntgen et al. (2018). Other records have been confirmed at 993-993AD and 660BC, as well as other excursions around 5410BC (Miyake et al. 2021). Brehm et al. (2021) have reported on two further large (~20‰) older events at 5260 and 7176BC. There is still a significant gap in events from 660BC to 5410BC. Other types of changes in ^{14}C production can be attributed to solar minima, which have a much slower rise time (over decades) and decay time. I will discuss these and some other effects

N. Brehm et al. 2021. Nature Communications doi:10.21203/rs.3.rs-753272/v1.
U. Büntgen et al. 2018. Nature Communications 9: 3605.
A. J. T. Jull et al. 2014. Geophysical Research Letters 41: 3004-3010.
F. Miyake et al. 2012. Nature 486: 282-284.
F. Miyake et al. 2017. PNAS 114: 881-884.
F. Miyake et al. 2021. Geophysical Research Letters 48(11): e2021GL093419

Donnerstag, 11. November 2021, 16:45 Uhr

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